

CHAPTER 33.1-20-01.1 GENERAL PROVISIONS

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33.1-20-01.1-01. Purpose.

It is the purpose of this article to provide performance criteria and standards for the management of solid waste in a manner that will control nuisance and litter, protect the public health, safety, and welfare, and prevent or minimize injury of environmental resources from exposure to solid waste or constituents of solid waste.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-01.1-02. Applicability.

Any person who operates or proposes to operate any type of solid waste management system, unit, or facility and any person who transports solid waste, is subject to the provisions of this article.

This article does not apply to the following:

1. The management of hazardous waste at hazardous waste management units or facilities as defined by chapter 33.1-24-01;
2. Solid waste management units which do not receive solid waste after October 9, 1993, except closure standards apply;
3. Recycled agricultural material;
4. The disposal of household waste generated by any individual who resides on unplatted land in unincorporated areas of this state, on that person's property, unless handling of this waste is not in keeping with the purpose of this article;
5. The beneficial use or reuse of materials, substances, energy, or other products derived from a resource recovery activity;
6. Additional exemptions of certain requirements as specified in provisions of this article; or
7. Agricultural waste from a farming operation that is disposed on land owned by the farming operation and which is not likely to pollute the waters of the state.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09, 23.1-08-22; S.L. 2017, ch. 199, § 23

33.1-20-01.1-03. Definitions.

The terms used throughout this article have the same meaning as in North Dakota Century Code chapter 23.1-08, except:

1. "Acre foot" means the volume of one acre [0.40 hectares] of surface area to a depth of one foot [30.5 centimeters].
2. "Agricultural processing operation" means a facility that processes crops, livestock, or other agricultural products in preparation for wholesale or retail sale to the public such as meat packing, the milling of grain, the selling of livestock by licensed livestock auction facilities, or other similar activities.
3. "Agricultural waste" means solid waste derived from the production and processing of crops and livestock such as manure, spoiled grain, grain screenings, undigested rumen material, livestock carcasses, fertilizer, and fertilizer containers, but does not include pesticide waste or pesticide containers.
4. "Airport" means a public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities.
5. "Aquifer" means a geological formation, group of formations, or portion of formation capable of yielding significant quantities of ground water to wells or springs.
6. "Area-capacity curves" means graphic curves that readily show the reservoir water surface area, in acres, at different elevations from the bottom of the reservoir to the maximum water surface, and the capacity or volume, in acre-feet, of the water contained in the reservoir at various elevations.
7. "Areas susceptible to mass movement" means those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where, because of natural or human-induced events, the movement of earthen material at, beneath, or adjacent to the solid waste management unit results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement include landslides, avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall.
8. "Beneficial use" means use of a solid waste or residual either in a manufacturing process to make a product or as a substitute for a raw material or product provided such use of the solid waste does not adversely impact human health or the environment. Beneficial use of CCR must meet the conditions in subdivisions a through d and beneficial use of other solid wastes or residuals must meet conditions in subdivisions a through c.
 - a. The solid waste or residual must provide a functional benefit;
 - b. The solid waste or residual must substitute for the use of a virgin material, conserving natural resources that would otherwise need to be obtained through practices, such as extraction;
 - c. The use of the solid waste or residual must meet relevant product specifications, regulatory standards or design standards when available, and when such standards are not available, the solid waste or residual is not used in excess quantities; and

- d. When unencapsulated use of CCR or residual involving placement on the land of twelve thousand four hundred tons or more in nonroadway applications, the user shall demonstrate and keep records, and provide such documentation upon request, that environmental releases to ground water, surface water, soil and air are comparable to or lower than those from analogous products made without solid waste or residual, or that environmental releases to ground water, surface water, soil and air will be at or below relevant regulatory and health-based benchmarks for human and ecological receptors during use.
9. "Closed unit" means a landfill or surface impoundment or a portion thereof that has received solid waste for which closure is complete.
10. "Closure" means the taking of those actions to close and reclaim a solid waste management unit or facility. Closure actions may include sloping filled areas to provide adequate drainage, applying final cover, providing erosion control measures, grading and seeding, installing monitoring devices, constructing surface water control structures, installing gas control systems, and measures necessary to secure the site.
11. "Coal combustion residuals (CCR)" means fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers. Coal combustion residuals is a subset of special waste.
12. "Commercial waste" means solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities exclusive of household waste, industrial waste, and special waste.
13. "Compliance boundary" means the vertical planar surface that extends downward into the uppermost aquifer and that circumscribes the waste management units at which water quality standards or maximum concentration limits apply.
14. "Composting" means the controlled biological decomposition of organic solid waste under aerobic conditions.
15. "Contouring" means the placement of material to provide a continuous downward slope on the surface of a drainage area, except for erosion control features (e.g., swales, contour banks).
16. "Detachable container" means a reusable container for the collection, storage, or transportation of solid waste that is mechanically loaded or handled (for example, "dumpsters" and "rolloffs").
17. "Dike" means an embankment, berm, or ridge of either natural or manmade materials used to prevent the movement of liquids, sludges, solids, or other materials.
18. "Displacement" means the relative movement of any two sides of a fault measured in any direction.
19. "Downstream toe" means the junction of the downstream slope or face of the surface impoundment with the ground surface.
20. "Drop box facility" means a facility used for the placement of a detachable container including the area adjacent for necessary entrance and exit roads, unloading, and turn-around areas. Drop box facilities normally serve the general public with loose loads and receive solid waste from off-site.

21. "Encapsulated beneficial use" means a beneficial use of solid waste that binds the solid waste into a solid matrix that minimizes its mobilization into the surrounding environment.
22. "Engineered slope protection measures" means nonvegetative cover systems, which include rock riprap, concrete revetments, vegetated wave berms, concrete facing, gabions, geotextiles, or fascines.
23. "Existing unit" means a landfill or surface impoundment or a portion thereof that is receiving or has received solid waste for which closure has not been completed.
24. "Facility" means all contiguous land and structures, other appurtenances, and improvements on land which include one or more solid waste management units, such as a transfer station, solid waste storage building, a solid waste processing system, a resource recovery system, an incinerator, a surface impoundment, a surface waste pile, a land treatment area, or a landfill. A facility may or may not be used solely for solid waste management.
25. "Factor of safety (safety factor)" means the ratio of the forces tending to resist the failure of a structure to the forces tending to cause such failure as determined by accepted engineering practice.
26. "Farming operation" means the production or raising of crops or livestock. Production or raising of crops or livestock includes the following:
 - a. Cultivating, growing, or harvesting agricultural crops;
 - b. Breeding, feeding, grazing, or finishing of livestock; or
 - c. Raising or producing poultry or unprocessed poultry products, unprocessed milk or dairy products, unprocessed livestock products such as wool, or unprocessed fruits, vegetables, or other horticultural products.

The term "farming operation" includes any animal feeding operation regulated under North Dakota Century Code chapter 61-28 or North Dakota Administrative Code chapter 33.1-16-03.1 that recycles or applies its manure and other residual agricultural material to soils as recycled agricultural material, but does not include an animal feeding operation that generates manure or other residual agricultural material that is discarded as agricultural waste. The term "farming operation" does not include any processing of crops, livestock, or other agricultural products by an agricultural processing operation.
27. "Fault" means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side.
28. "Final cover" means any combination of compacted or uncompacted earthen material, synthetic material, and suitable plant growth material which, after closure, will be permanently exposed to the weather and which is spread on the top and side slopes of a landfill or facility.
29. "Floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters that are inundated by an one hundred-year flood.
30. "Flood hydrograph" means a graph showing, for a given point on a stream, the discharge, height, or other characteristic of a flood as a function of time.
31. "Freeboard" means the vertical distance between the lowest point on the crest of the impoundment dike and the surface of the waste contained therein.
32. "Free liquid" means the liquid which separates from the solid portion of a solid waste under ambient pressure and normal, above freezing temperature. The environmental protection

agency paint filter liquids test method or visual evidence must be used to determine if a waste contains free liquid.

33. "Fugitive dust" means solid airborne particulate matter that contains or is derived from solid waste, emitted from any source other than a stack or chimney.
34. "Garbage" means putrescible solid waste such as animal and vegetable waste resulting from the handling, preparation, cooking, and consumption of food, including wastes from markets, storage facilities, and processing plants.
35. "Gas condensate" means the liquid generated as a result of gas recovery processes at a landfill disposal unit.
36. "General permit" means a regional or statewide permit issued by the department for a specified category of beneficial use, processing or treatment of solid waste, the terms and conditions of which allow a person to operate under the permit if the terms and conditions of the permit and requirements of this article are met.
37. "Grassy vegetation" means vegetation that creates a continuous dense cover that prevents erosion and deterioration of the surface of the slope or pertinent surrounding areas, thereby preventing deterioration of the surface and develops shallow roots that do not penetrate the slopes or pertinent surrounding areas of the solid waste unit to a substantial depth and do not introduce the potential of internal erosion or risk of uprooting.
38. "Ground water" means water below the land surface in a geologic unit in which soil pores are filled with water and the pressure of that water is equal to or greater than atmospheric pressure.
39. "Hazardous waste" has the meaning given by North Dakota Century Code section 23.1-04-02 and further defined in North Dakota Administrative Code chapter 33.1-24-02.
40. "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch, at eleven thousand seven hundred years before present, to present.
41. "Household waste" means solid waste, such as trash and garbage, normally derived from households, single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day use recreation areas.
42. "Hydraulic conductivity" means the rate at which water can move through a permeable medium (i.e., the coefficient of permeability).
43. "Incinerator" has the meaning given by section 33.1-15-01-04.
44. "Incised surface impoundment" means a surface impoundment which is constructed by excavating entirely below the natural ground surface, holds an accumulation of solid waste entirely below the adjacent natural ground surface, and does not consist of any constructed diked portion.
45. "Industrial waste" has the same meaning as in North Dakota Century Code section 23.1-08-02. Such waste may include residues or spills of any industrial or manufacturing process and waste resulting from the following: fertilizer/agricultural chemicals; food and related products/byproducts; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; textile manufacturing; transportation equipment; petroleum refining; and the combustion of municipal waste or regulated infectious waste.

46. "Inert waste" means nonputrescible solid waste which will not generally contaminate water or form a contaminated leachate. Inert waste does not serve as food for vectors. Inert waste includes: construction and demolition material such as metal, wood, bricks, masonry and cement concrete; asphalt concrete; metal; tree branches; bottom ash from coal-fired boilers that is not CCR; and waste coal fines from air pollution control equipment.
47. "Inflow design flood" means the flood hydrograph that is used in the design or modification of the surface impoundments and its appurtenant works.
48. "Land treatment" means the controlled application of solid waste, excluding application of animal manure, into the surface soil to alter the physical, chemical, and biological properties of the waste.
49. "Landfill" has the meaning given by North Dakota Century Code section 23.1-08-02 and that is not a land treatment unit, surface impoundment, injection well, or waste pile.
50. "Lateral expansion" means a horizontal extension of the waste boundaries of an existing solid waste disposal unit. This applies to an existing CCR landfill or existing CCR surface impoundment for lateral expansions made after October 19, 2015.
51. "Leachate" means a liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.
52. "Leachate removal system" means any combination of landfill base slopes, liners, permeable zones, pipes, detection systems, sumps, pumps, holding areas or retention structures, treatment systems, or other features that are designed, constructed, and maintained to contain, collect, detect, remove, and treat leachate.
53. "Liquefaction factor of safety" means the factor of safety (safety factor) determined using analysis under liquefaction conditions.
54. "Lithified earth material" means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include manmade materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface.
55. "Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at twenty-five degrees Celsius [77 degrees Fahrenheit].
56. "Municipal waste incinerator ash" means the residue produced by the incineration or gasification of municipal waste.
57. "Nutrient management plan" means a plan prepared by any animal feeding operation regulated under North Dakota Century Code chapter 61-28 or North Dakota Administrative Code chapter 33.1-16-03, or by any agricultural processing operation. This plan shall be submitted to the department for approval and describe the method and schedule by which the recycled agricultural materials generated or stored by the operation are recycled or applied to the land at appropriate agronomic rates as nutrients or fertilizers, rather than discarded as agricultural waste. An approved nutrient management plan must address water pollution, odor, and other environmental and public health problems that are relevant because of size, location, or other environmental factors, and may include the following elements:
 - a. Recycled agricultural material handling and storage, including construction and maintenance of buildings, feedlots, collection systems, storage systems with adequate storage and integrity, and diversion of runoff and flowing surface water from contact with the storage systems and the recycled agricultural material;

- b. Land application of recycled agricultural material, including soils testing, transportation, timing and methods of application, and nutrient management;
 - c. Conservation management practices, including injection or tillage of the recycled agricultural materials into the soils, crop residue and pasture management practices, use of conservation buffers, and other conservation practices that prevent water pollution from land application of recycled agricultural materials;
 - d. Recordkeeping and submittal of an annual report to the department, including the place, date, and amount of recycled agricultural material applied per acre, plus records of any testing;
 - e. Feed management; and
 - f. Other utilization options where residual agricultural materials are recycled.
58. "Operator" means the person responsible for the overall operation of a facility or part of a facility.
59. "Owner" means the person who owns a facility or part of a facility.
60. "Plan of operation" means the written plan developed by an owner or operator of a facility detailing how a facility is to be operated during its active life.
61. "Postclosure period" means the period of time following closure of a solid waste management unit during which the owner or operator must perform postclosure activities.
62. "Probable maximum flood" means the flood that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in the drainage basin.
63. "Processing" means an operation designed to separate, shred, compress, or otherwise modify a recyclable material to facilitate the transport or resource recovery of the material.
64. "Qualified environmental professional" means a person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding conditions indicative of releases or threatened releases to the environment. Such a person must:
- a. Be licensed or certified by a nationally recognized accreditation program (contingent upon prior approval by the department) and have the equivalent of three years of full-time relevant experience; or
 - b. Have a baccalaureate or higher degree from an accredited institution of higher education in a discipline of engineering or science and the equivalent of five years of full-time relevant experience.
65. "Qualified professional engineer" means a professional engineer, as defined in subsection 9 of North Dakota Century Code section 43-19.1-02, who is qualified by education, technical knowledge, and experience to make the specific technical certifications required under this article. Professional engineers making these certifications must be currently licensed in the state of North Dakota.
66. "Radioactive waste" means solid waste containing radioactive material and subject to the requirements of article 33.1-10.
67. "Recognized and generally accepted good engineering practices" means engineering maintenance or operation activities based on established codes, widely accepted standards,

published technical reports, or a practice widely recommended throughout the industry. Such practices generally detail approved ways to perform specific engineering, inspection, or mechanical integrity activities.

- 68. "Recyclable material" means a solid waste material that has been segregated for recycling or converted into a raw material, substitute for a raw material, or a commodity.
- 69. "Recycled agricultural material" means agricultural waste generated by a farming operation or agricultural processing operation that is recycled or applied to soils as a nutrient or as a fertilizer at appropriate agronomic rates, or that is left in place on soils during harvesting, grazing, or other similar agricultural activities. Recycled agricultural materials also include:
 - a. Material, including manure, generated by any animal feeding operation regulated under North Dakota Century Code chapter 61-28 or North Dakota Administrative Code chapter 33.1-16-03 that is stored in a feedlot or waste storage structure, provided that the material is stored in a manner that is not likely to pollute the waters of the state, and recycled or applied to soils as nutrients or fertilizers in accordance with an approved nutrient management plan; or
 - b. Material, including manure, generated by any agricultural processing operation that is stored in a manner that is not likely to pollute the waters of the state, and recycled or applied to soils as nutrients or fertilizers in accordance with an approved nutrient management plan.

Recycled agricultural material does not include agricultural waste that is discarded as garbage, refuse, or other solid waste.

- 70. "Recycling" means collecting, sorting, or recovering material that would otherwise be solid waste and performing all or part of a method or technique, including processing, to create a recyclable material.
- 71. "Representative sample" means a sample of a universe or whole (e.g., waste pile, lagoon and ground water) which can be expected to exhibit the average properties of the universe or whole.
- 72. "Runoff" means any snowmelt, rainwater, leachate, or other liquid that drains from any part of a facility over another part of the facility or over land adjoining the facility.
- 73. "Run-on" means any snowmelt, rainwater, or other liquid that drains from land adjoining a facility onto any part of the facility or that drains from one part of the facility onto another part of the facility.
- 74. "Sand and gravel pit or quarry" means an excavation for the extraction of aggregate, minerals, or metals. The term sand and gravel pit or quarry does not include subsurface or surface coal mines.
- 75. "Scavenging" means uncontrolled removal of solid waste materials from any solid waste management facility.
- 76. "Sequential partial closure" means bringing discrete, usually adjacent, portions of a disposal facility to elevation and grade in an orderly, continually progressing process as part of the operations of the facility for facilitating closure.
- 77. "Sludge" means solid waste in a semisolid form consisting of a mixture of solids and water, oils, or other liquids.

78. "Solid waste management unit" means any discernible unit at which solid wastes have been placed at any time, for the management of solid waste, such as a transfer station, solid waste storage building, a solid waste processing system, a resource recovery system, an incinerator, a surface impoundment, a surface waste pile, a land treatment area, or a landfill. A solid waste management unit may consist of multiple components that serve the same function within a facility, such as multiple surface impoundments or waste holding tanks.
- 79 "Static factor of safety" means the factor of safety (safety factor) determined using analysis under the long-term, maximum storage pool loading condition, the maximum surcharge pool loading condition, and under the end-of-construction loading condition.
80. "Structural components" means liners, leachate collection and removal systems, final covers, run-on and run-off systems, inflow design flood controls systems, and any other component used in the construction and operation of the solid waste management unit that is necessary to ensure the integrity of the unit and that the contents of the unit are not released into the environment.
81. "Suitable plant growth material" means that soil material (normally the A and the upper portion of B horizons which are dark colored due to organic staining) which, based upon a soil survey, is acceptable as a medium for plant growth when respread on the surface of regraded areas.
82. "Surface impoundment" means a human-made excavation, diked area, or natural topographic depression designed to hold an accumulation of leachate, solid waste which is liquid, liquid bearing, or sludge for containment, treatment, or disposal.
83. "Technologically enhanced naturally occurring radioactive material (TENORM)" means naturally occurring radioactive material whose radionuclide concentrations are increased by or as a result of past or present human practices. TENORM does not include background radiation or the natural radioactivity of rocks or soils. TENORM does not include "source material" and "byproduct material" as both are defined in the Atomic Energy Act of 1954, as amended [42 U.S.C. 2011 et seq.] and relevant regulations implemented by the United States nuclear regulatory commission.
84. "Transfer station" means a site or building used to transfer solid waste from a vehicle or a container, such as a rolloff box, into another vehicle or container for transport to another facility.
85. "Treatment" means a method or process designed to change the physical, chemical, or biological character or composition of a solid waste or leachate so as to neutralize the waste or leachate or so as to render the waste or leachate safer for public health or environmental resources during transport, storage, beneficial reuse, or disposal. The term does not include resource recovery.
86. "Unstable area" means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity, including structural components of some or all of the solid waste management unit that are responsible for preventing releases from such unit. Unstable areas can include poor foundation conditions and areas susceptible to mass movements.
87. "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary. Upper limit is measured at a point nearest to the natural ground surface to which the aquifer rises during the wet season.
88. "Used oil" means any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use is contaminated by physical or chemical impurities.

89. "Vegetative height" means the linear distance between the ground surface where the vegetation penetrates the ground surface and the outermost growth point of the vegetation.
90. "Waste boundary" means a vertical surface located at the hydraulically downgradient limit of the solid waste management unit. The vertical surface extends down into the uppermost aquifer.
91. "Waste pile or pile" means any noncontainerized accumulation of nonflowing solid waste.
92. "Wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.
93. "Woody vegetation" means vegetation that develops woody trunks, root balls, or root systems that can penetrate the slopes or pertinent surrounding areas of the solid waste unit to a substantial depth and introduce the potential of internal erosion or risk of uprooting.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03, 61-28-04; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 61-28-04; S.L. 2017, ch. 199, § 23

33.1-20-01.1-04. Care and disposal of solid waste.

1. Any person who owns or operates any premises, business establishment, or industry is responsible for the solid waste management activities, such as storage, transportation, resource recovery, or disposal, of solid waste generated or managed at that person's premises, business establishment, or industry.
2. No solid waste may be delivered to a facility which is not in compliance with this article or abandoned upon any street, alley, highway, public place, or private premises.
3. Solid waste must be stored, collected, and transported in a manner that provides for public safety, prevents uncontrolled introduction into the environment, and minimizes harborage for insects, rats, or other vermin.
4. Except in unincorporated areas of this state, household waste must be removed from the premises or containers at regular intervals not to exceed seven days and transported to a solid waste management unit or facility.
5. Used oil, lead-acid batteries, major appliances, and scrap metal may not be collected or transported for disposal to any solid waste disposal unit or facility unless such unit or facility has provision for intermediate storage and recycling of these materials and all such materials are appropriately segregated for recycling.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-01.1-04.1. Storage containers and areas.

All household wastes are to be stored in the manner provided by this section.

1. **Storage containers.**
 - a. Single-use containers.

- (1) Single-use containers, such as paper or plastic bags, liners, or cartons, must have a maximum capacity of thirty-two gallons [121.1 liters] unless otherwise allowed by the local unit of government, must be leakproof and must be puncture resistant. Paper bags must be specifically designed for solid waste containment or disposal.
 - (2) Paper containers may not be used for outside storage unless supported by wall-mounted or freestanding holders or frames. When filled, the container top must be tied, stapled, or crimped to completely confine the contents.
 - b. Residential containers.
 - (1) Reusable residential containers must be rigid and durable, nonabsorbent, watertight, tapered, corrosion resistant, rodentproof, easily cleanable, and have a flytight cover. These containers must be covered except when adding or removing waste.
 - (2) Residential containers must have a maximum capacity of thirty-two gallons [121.1 liters].
 - (3) When residential containers are kept in the outdoor environment, storage racks or supports must be provided to minimize corrosion, to prevent breeding of insects, and to prevent rodent harborage. The bottom of the racks or supports must be at least one foot [30.5 centimeters] above ground level. The covers may be chained to the rack or to a permanent structure.
 - c. Bulk containers. Bulk containers or detachable containers, such as dumpsters, must be constructed of rigid and durable, rust-resistant and corrosion-resistant material, be equipped with tight-fitting lids or doors to prevent entrance of insects or rodents, and must be leakproof. Lids and covers must be closed except when adding or removing waste.
2. **Enclosed storage areas.**
- a. Storage rooms, buildings, or areas must be of rodentproof construction which is readily cleanable with proper drainage.
 - b. Storage rooms or buildings, if not refrigerated, must be adequately vented and all openings must be screened.
3. **Maintenance of containers and enclosed storage areas.**
- a. All containers and enclosed areas for storage of solid waste must be maintained in good repair and in a manner as necessary to prevent litter, nuisances, odors, insect breeding, and rodents.
 - b. Containers that are broken or otherwise fail to meet requirements of this section must be replaced with complying containers.
4. **Unconfined waste.** Unless special service or special equipment is provided by the collector for handling unconfined waste materials such as trash, brush, leaves, tree cuttings, newspapers and magazines, and other debris for manual pickup and collection, these materials must be in securely tied bundles or in boxes, sacks, or other receptacles and solid waste so bundled may not exceed fifty pounds [22.7 kilograms] in weight and four feet [1.8 meters] in length. Such wastes may not be placed out for collection twenty-four hours before scheduled pickup.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-01.1-05. Collection and transportation vehicles.

1. Vehicles used for the commercial collection and transportation of any residue, sludge, agricultural, inert, industrial waste, or special waste must be loaded and moved in such a manner that the contents will not fall, leak, or spill therefrom. Where spillage does occur, the collector or transporter shall immediately return spilled waste to the vehicle or container and, if necessary, clean and decontaminate the area.
2. Vehicles used for the commercial collection and transportation of regulated infectious waste, household waste, or municipal waste incinerator ash must be fully leakproof and fully enclosed or covered to prevent scattering of material. Regulated infectious waste may not be subject to mechanical stress or compaction during loading, unloading, and transit. Any spilled material must be immediately returned to the transport vehicle or container and, if necessary, the area must be cleaned and decontaminated.
3. The cargo-carrying body of a vehicle used for commercial collection or transportation of solid waste must be maintained in good repair and in sanitary condition.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-01.1-06. Hazardous waste.

The management of hazardous waste is regulated under article 33.1-24, except as otherwise provided in this article and section.

1. Containers having hazardous waste in excess of normal household quantities, which are not managed under article 33.1-24, must be marked to designate the content as toxic, explosive, or otherwise hazardous in a manner designed to give adequate warning to any person conducting the collection, transport, resource recovery, or disposal of the waste.
2. Every person who transports hazardous waste shall have a valid solid waste transporters permit, unless exempted by section 33.1-20-02-01.
3. Owners and operators of disposal, resource recovery, or solid waste processing facilities may not knowingly store, treat, handle, or dispose of hazardous waste in amounts that are in excess of quantities normally in household waste, unless the requirements of article 33.1-24 are met.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-01.1-07. Pesticide waste.

Every person who handles surplus agricultural pesticides and pesticide containers shall comply with this article, section 33.1-15-10-02, and North Dakota Century Code section 4.1-33-17. Surplus pesticides may not be discarded in any manner which endangers humans, animals, and the environment. Pesticide containers must be drained empty according to label directions and power or triple rinsed before processing or disposal.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-01.1-08. Asbestos waste.

Every person who handles and disposes of asbestos waste shall comply with section 33.1-15-13-02 and this article.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-01.1-09. Radioactive waste.

Every person who handles and disposes of radioactive waste shall comply with article 33.1-10. Every person who handles and disposes of TENORM shall also comply with the applicable requirements of this article.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, §§ 18, 23

33.1-20-01.1-10. [Reserved].

33.1-20-01.1-11. Industrial waste and special waste.

Every person who generates industrial waste or special waste or who operates a landfill for disposal of municipal waste, industrial waste, or special waste shall comply with this article and this section.

1. Industrial waste, except as provided by subsection 3:
 - a. May be codisposed with municipal waste in a municipal waste landfill in amounts less than or equal to ten percent by month of the weight of the municipal waste, except that the accumulated amount of industrial waste must not exceed twenty thousand tons [18,143.69 metric tons] per year or three thousand tons [2,721.55 metric tons] in any one month; or
 - b. May be disposed in a landfill which complies with chapter 33.1-20-07.1, except that the accumulated amount must not exceed twenty-five thousand tons [22,679.62 metric tons] per year or three thousand tons [2,721.55 metric tons] in any one month unless larger amounts in one month resulting from remediation of spills or cleanup projects are approved by the department; or
 - c. Otherwise must be disposed in a landfill which complies with chapter 33.1-20-10 when the amount exceeds twenty-five thousand tons [22,679.62 metric tons] per year.
2. The disposal of non-CCR special waste must comply with chapter 33.1-20-07.1 and the disposal of CCR must comply with chapter 33.1-20-08.
3. The disposal of municipal solid waste (MSW) incinerator ash in an accumulated amount greater than three thousand tons [2,721.55 metric tons] per year must comply with chapter 33.1-20-10.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-01.1-12. Waste treatment.

The department may require the treatment of a solid waste which may have incompatible characteristics with another solid waste prior to or during codisposal or which may produce a constituent in the waste's laboratory extract or leachate that exceeds twenty percent of a toxicity standard provided by section 33.1-24-02-14 or ten parts per million polychlorinated biphenols. The department must consider factors such as the site hydrogeological characteristics, toxicity of the waste, anticipated leachate quality, mobility of waste constituents, fate of leachate constituents during migration, potential site capacity, or local uses of waters of the state.

1. Treatment, when performed, must reduce:
 - a. Toxicity of the waste;
 - b. The mobility of constituents contained in or derived from the waste into leachate; or
 - c. Both the toxicity and mobility.
2. When treatment is required, the generator of the solid waste or the owner or operator of the facility at which the waste would be treated must provide a demonstration of the treatment technology for approval by the department.
3. An owner or operator may propose and demonstrate treatment of solid waste so as to remove or separate toxic materials or constituents from the waste prior to disposal. In evaluating the demonstration, the department shall consider such factors as technical feasibility; the proposed management of the removed or separated waste materials or constituents; the physical, chemical, and biological processes affecting fate and transport; relative degree of removal of the toxic materials or constituents; or the resulting characteristics of the waste or leachate. If the treatment achieves leachate concentrations of constituents in or derived from the remaining waste which are less than the standards of article 33.1-16, the department may reduce or waive one or more of the criteria of this article which are enumerated in one or more of the following subdivisions:
 - a. The liner or hydraulic barrier.
 - b. The leachate removal system.
 - c. The site efficiency for collection or rejection of precipitation that falls on the landfill.
 - d. The ground water monitoring plan and system.
 - e. The plan of operation.
 - f. The postclosure plan and postclosure period.
 - g. Recordkeeping and reporting.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-01.1-13. Certified laboratory.

All waste, leachate, and water analysis required by article 33.1-20 must be conducted by a laboratory approved by the department's certification procedures.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

[PAGE]

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23 **33.1-20-01.1-14.**

Variances.

Whereupon written application the department finds that by reason of exceptional circumstances strict conformity with any provisions of this article would cause undue hardship or would be unreasonable, impractical, or not feasible under the circumstances, the department may permit a variance from this article upon such conditions and within such time limitations as it may prescribe. The department will not approve variances for CCR facilities without concurrence from the United States environmental protection agency.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 2

CHAPTER 33.1-20-02.1 PERMIT PROVISIONS AND PROCEDURES

Section

- 33.1-20-02.1-01 Solid Waste Management Permit Required
- 33.1-20-02.1-02 Permits by Rule
- 33.1-20-02.1-03 General Permits for Beneficial Use, Processing, or Treatment of Solid Waste
- 33.1-20-02.1-04 Permit Compliance
- 33.1-20-02.1-05 Record of Notice
- 33.1-20-02.1-06 Property Rights
- 33.1-20-02.1-07 Permit Modification, Suspension, or Revocation
- 33.1-20-02.1-08 Renewal of Permit

33.1-20-02.1-01. Solid waste management permit required.

Every person who treats or transports solid waste or operates a solid waste management unit or facility is required to have a valid permit issued by the department, unless the activity is an emergency, exemption, or exception as provided in this section.

1. If the department determines an emergency exists, it may issue an order citing the existence of such emergency and require that certain actions be taken as necessary to meet the emergency in accordance with the provisions of North Dakota Century Code section 23.1-08-19.
2. A solid waste management permit is not required for the following activities or facilities:
 - a. Backyard composting of leaves, grass clippings, or wood chips;
 - b. A collection point for parking lot or street sweepings;
 - c. Collection sites for wastes collected and received in sealed plastic bags from such activities as periodic cleanup campaigns for cities, rights of way, or roadside parks;
 - d. Onsite incinerators used by hospitals, clinics, laboratories, or other similar facilities solely for incineration of commercial waste or infectious waste generated onsite;
 - e. Rock and dirt fills that receive any combination of rock, dirt, or sand;
 - f. Surface impoundments for storage, handling, and disposal of oil and gas exploration and production wastes on a lease or area permitted through the North Dakota industrial commission under North Dakota Century Code section 38-08-04;
 - g The disposal into the mine spoils of the following wastes generated in the mining operation:
 - (1) Rock, boulders, and dirt; and
 - (2) Trees and brush.
 - h. The disposal of the following mining operation wastes into areas designated in a surface coal mining permit issued by the North Dakota public service commission for such disposal:
 - (1) Inert waste from inspected farmsteads;
 - (2) Wood materials including pallets, lumber, lathe, cables, pools, and fenceposts;
 - (3) Brick, concrete block, and cured concrete; and

(4) Plastic material and pipe.

3. A permit for the transportation of solid waste is not required by persons who:
 - a. Transport solely their own waste to a solid waste management unit or facility; or
 - b. Transport waste entirely within a facility regulated under this article or entirely on their property.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-02.1-02. Permits by rule.

The owner or operator of the following facilities is deemed to have obtained a permit for a solid waste management facility without making application for it as long as the owner or operator remains in compliance with section 33.1-20-04.1-01 and the rules and requirements provided in the respective subsections of this section:

1. A facility for inert waste operated for municipalities which together have one thousand or fewer people provided:
 - a. The owner or operator of a new facility or lateral expansion of a landfill notifies the department, on forms available from the department, ninety days prior to any construction;
 - b. The facility is in compliance with sections 33.1-20-02.1-05, 33.1-20-04.1-02, and 33.1-20-04.1-09 and with chapter 33.1-20-05.1.
2. A drop box facility in compliance with subsection 2 of section 33.1-20-04.1-06.
3. A waste pile for composting only grass and leaves that is operated for ten thousand or fewer people in compliance with section 33.1-20-04.1-07 provided the owner or operator notifies the department, on forms available from the department, ninety days prior to construction.
4. A pile of scrap tires accumulated by a tire dealer, a municipality, or a county which contains either one thousand three hundred or fewer car tires, twenty-five tons [22.7 metric tons] or less of shredded tires or a pile of tires, which is equivalent in volume to one twin-axle semitrailer load or less, provided that no public nuisance is created and the following requirements are addressed:
 - a. Access to the facility is monitored or controlled;
 - b. The location is accessible by fire control and emergency equipment; and
 - c. The owner or operator has appropriate provisions and financial arrangements for the recycling or disposal of tires.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-02.1-03. General permits for beneficial use, processing, or treatment of solid waste.

1. Authorization for a general permit:

- a. The department may issue general permits on a regional or statewide basis for a category of beneficial use, processing, or treatment of solid waste, including recyclable materials, if the following are met:
 - (1) The wastes included in the category are generated by the same or substantially similar operations and have the same or substantially similar physical characteristics and chemical composition. If wastes are not the same or substantially similar and are blended for use, the blend shall be consistently reproduced with the same physical characteristics and chemical composition.
 - (2) The wastes included in the category are proposed for the same or substantially similar beneficial use, processing, or treatment operations.
 - (3) The activities in the category can be adequately regulated utilizing standardized conditions without harming or presenting a threat of harm to human health, safety, or the environment. At a minimum, the use of the waste as an ingredient in an industrial process or as a substitute for a commercial product may not present a greater harm or threat of harm than the use of the product or ingredient which the waste is replacing; and
 - (4) The activities in the category are in accordance with the requirements and purposes of this article, and do not pose a threat of harm to human health, safety, or the environment.
- b. A person does not require an individual solid waste permit under this article if the following are met:
 - (1) The beneficial use, processing, or treatment activities are conducted in accordance with the terms and conditions of the applicable general permit; and
 - (2) The person conducting the beneficial use, processing, or treatment activities has registered with the department for coverage under the general permit, if registration is required by the general permit.
- c. Notwithstanding subdivision b, the department may require a person authorized by a general permit to apply for, and obtain, an individual permit when the person is not in compliance with the conditions of the general permit or is conducting an activity that, in the department's determination, may present a threat of harm to human health, safety, or the environment.
- d. The department may issue a new general permit upon its own motion or upon an application from a person.
- e. The department may impose a fee for a new general permit application or for registration or application for coverage under an existing general permit, based on the anticipated cost of filing and processing the application, taking action on the requested permit or registration certificate, and conducting a monitoring and inspection program to determine compliance with the permit or registration certificate.
- f. The department may modify, suspend, revoke, or reissue general permits or coverage under a general permit as it deems necessary to prevent harm or threat of harm to human health, safety, or the environment.
- g. A person that beneficially uses, processes, or treats solid waste under a general permit shall comply with the terms and conditions of the general permit and requirements of this article to the same extent as if the activity were covered by an individual permit.

- h. A person operating under a general permit has the burden of proving that the waste and activity are consistent with the general permit.
 - i. Persons applying for coverage or operating under a general permit are subject to all local zoning requirements.
- 2. Application for a new general permit. An application from a person for the issuance of a new general permit shall be submitted on a form provided by the department and must contain the following:
 - a. A description of the type of solid waste to be covered by the general permit, including physical and chemical characteristics of the waste. The chemical description shall contain an analysis of a sufficient number of samples of solid waste in the same waste type to accurately represent the range of physical and chemical characteristics of the waste type;
 - b. A description of the proposed type of beneficial use, processing, or treatment activity to be covered by the general permit;
 - c. A detailed narrative and schematic diagram of the production or manufacturing process from which the waste to be covered by the general permit is generated;
 - d. For beneficial use general permits, proposed concentration limits for contaminants in the beneficially used waste, and a rationale for those limits. At a minimum, the use of the waste as an ingredient in an industrial process or as a substitute for a raw material or a commercial product may not present a greater harm or threat of harm than the use of the product or ingredient which the waste is replacing;
 - e. For general permits that involve beneficial use of solid waste, a detailed demonstration of the suitability of the waste for the proposed beneficial use, which must include:
 - (1) A demonstration that the physical characteristics and chemical composition of the solid waste contributes to the proposed beneficial use and does not interfere with the proposed beneficial use;
 - (2) If the waste is to be used as a substitute for a commercial product, a demonstration that the waste can perform the desired functions of the commercial product, and that the waste meets or exceeds all applicable national, state, local, or industry standards or specifications for the material for which the waste is being substituted;
 - (3) If the waste is to be used as a raw material for a product with commercial value, a demonstration that the waste will contribute significant properties or materials to the end product, and that the waste meets or exceeds all applicable national, state, local, or industry standards or specifications for the material for which the waste is being substituted;
 - (4) If the waste is to be used in general roadway application or highway construction, a demonstration that approval will be granted by the department of transportation, if applicable, for the use of the waste for the intended application;
 - (5) If the waste is to be used as a construction material, soil substitute, soil additive, or antiskid material, or is to be otherwise placed directly onto the land, an evaluation of the potential for adverse public health and environmental impacts from the proposed use of the solid waste. The evaluation shall identify the constituents of the waste which may present the potential for adverse public health and environmental impacts, and the potential pathways of human exposure to those constituents, including exposure through ground water, surface water, air, and the food chain; and

- (6) If the waste is to be used as a construction material, a description of the construction activities and detailed timelines for the prompt completion of the construction activities.
 - f. If solid wastes are blended for use, a demonstration that each waste results in a beneficial contribution to the use of the mixed waste and that the consistency of the blend will be maintained. The applicant shall specify the quantities and proportions of all materials included in the blended waste, and the mixture shall meet appropriate standards for use;
 - g. Payment of the fee specified in chapter 33.1-20-15 for a new general permit; and
 - h. Any other relevant information requested by the department.
3. Public notice and review period.
- a. The department shall publish notice of receipt of an application for a new general permit on its official website when the department determines the application is determined to be substantially complete.
 - b. The department shall follow the same review and public notice procedures for new general permit applications as for individual permit applications in section 33.1-20-03.1-03.
 - c. The department shall publish all finalized and approved new general permits on its official website and list all persons who have registered for coverage under that general permit.
4. Contents of general permits. Each new general permit issued by the department must include, at a minimum:
- a. A clear and specific description of the category of waste and the category of beneficial use, processing, or treatment of solid waste eligible for coverage under the general permit;
 - b. A brief description of the reasons for the department's determination that the category of beneficial use, processing or treatment is eligible for coverage under the general permit;
 - c. Registration or determination of applicability requirements and the fee, if any, imposed on registrants or applicants for coverage under the general permit;
 - d. A set of terms and conditions governing the beneficial use, processing or treatment of solid waste covered by the general permit that the department determines are necessary to ensure compliance with this article, including provisions for the protection of ground water. At a minimum, the conditions must include:
 - (1) Limits on the physical and chemical properties of waste that may be beneficially used, processed, or treated and a requirement that persons who conduct activities authorized by the general permit shall notify the department immediately on forms provided by the department, of a change in the physical or chemical properties of the solid waste, including leachability;
 - (2) The department's right of access to the site or facility where permitted activities are conducted for inspections as provided in North Dakota Century Code section 23.1-08-18;
 - (3) An effective date and a fixed permit term that may not exceed ten years from the effective date;

- (4) A requirement that a person operating under the permit shall notify the department within the time stated in the permit and, if no time is stated no later than thirty days, in writing, of any changes in the following:
 - (a) The company's name, address, owners, operators, and responsible officials.
 - (b) Land ownership where the general permit is implemented.
 - (c) The physical and chemical characteristics of the solid waste.
 - (d) The generators of the solid waste and the manufacturing process that generates the solid waste.
 - (e) The status of any permit issued to the permittee or any agent of the permittee engaged in activities under the permit by the department.
- (5) A requirement that the activities conducted under the authorization of a general permit must be conducted in accordance with the permittee's application, except to the extent that a general permit may state otherwise;
 - e. The general permit may include a requirement that persons that conduct activities authorized by the general permit shall submit to the department periodic reports, analyses of waste and other information to ensure the quality of the waste to be beneficially used or processed does not change; and
 - f. The general permit may include a requirement for financial assurance to remove materials remaining after closure or for emergency response site cleanup, based on the volume, physical, or chemical characteristics, or treatment methods of the materials covered under the general permit.
- 5. Coverage under a general permit.
 - a. A person is authorized to operate under a general permit if one of the following occurs:
 - (1) No registration required for coverage. The applicable general permit does not require persons to register with the department prior to operating under the general permit, and the person is operating in accordance with all terms of the general permit; or
 - (2) Registration required for coverage. The applicable general permit requires persons to register with the department prior to operating under the general permit. The department will notify the person that has registered that they may begin to operate in accordance with the terms of the general permit; or
 - (3) Application required for coverage. The applicable general permit requires persons to apply for and obtain authorization to operate, including site approval, from the department prior to operating under the general permit, and the department has made this authorization.
 - b. Except as provided in subdivision c, as a condition of each general permit, the department may require persons seeking coverage under the general permit to register or apply with the department within a specified time period. New operations not in existence before the issuance of a general permit shall register prior to conducting the activity authorized by the general permit.
 - c. For general permits where the solid waste is to be used as a construction material, antiskid material ,or otherwise placed directly onto the land, as a condition of the general

- permit, the department may require persons who intend to operate under the general permit to apply for and obtain authorization from the department prior to conducting the activity authorized by the general permit. The department may impose the requirement for prior authorization on other general permits for beneficial use, processing, or treatment activities if the department determines the condition is necessary to prevent harm or a threat of harm to the health and safety of people or the environment.
- d. If required by the general permit, the registration or application must include:
- (1) The name and address of the person conducting the activity covered by the general permit;
 - (2) A description of each waste that will be beneficially used or processed in accordance with the general permit;
 - (3) The location where the general permit will be implemented;
 - (4) A description of the proposed method of processing or beneficial use of the waste;
 - (5) An analysis that is in accordance with the general permit, if the general permit requires a registrant or applicant to chemically analyze each waste to be processed or beneficially used;
 - (6) The name or number of the general permit being utilized for the activity;
 - (7) A demonstration that the activities the person intends to conduct are authorized by the general permit;
 - (8) A disclosure statement as required by North Dakota Century Code section 23.1-08-17;
 - (9) A signed statement by the person conducting the activity authorized by the general permit, on a form prepared by the department, which states that the person agrees to accept the conditions imposed by the general permit for beneficial use, processing, or treatment of solid waste under the general permit;
 - (10) A registration or application fee if required by the general permit; and
 - (11) Any other relevant information requested by the department.
- e. The department may amend, suspend, or revoke coverage under a general permit if a person authorized to conduct solid waste activities under a general permit is not in compliance with all of the permit conditions or other requirements of this article.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03, 23-08-10; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09, 23-08-10; S.L. 2017, ch. 199, § 1

33.1-20-02.1-04. Permit compliance.

All solid waste management facilities and activities must be performed, constructed, operated, and closed in a manner consistent with the permit application and subject to any modifications specified through permit conditions.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-02.1-05. Record of notice.

1. Within sixty days of the issuance of a permit for any landfill, surface impoundment, or land treatment unit if not already completed, the owner or operator shall record a notarized affidavit with the county recorder. The affidavit must specify that this facility, as noted in the legal description, is permitted to accept solid waste for disposal. This affidavit must specify that another affidavit must be recorded upon the facility's final closure.
2. Within sixty days of completion of final closure of any landfill, surface impoundment, or land treatment facility and prior to sale or lease of the property on which the facility is located, the owner shall comply with North Dakota Century Code section 23.1-08-21. The record or plat shall, in perpetuity, notify any person conducting a title search that the land has been used as a solid waste disposal facility. The record or plat must indicate the types and quantities of solid waste placed in the site and details on the site's construction, operation, or closure (including precautions against any building, earth moving, or tillage on the closed site) which are necessary to ensure the long-term maintenance and integrity of the closed facility.
3. The department must be provided a certified copy of any affidavit or plat within sixty days of recording.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-02.1-06. Property rights.

An applicant for a permit for a solid waste management unit or facility shall acquire or possess a right to the use of the property for which a permit is sought, including the access route thereto. After closure, the applicant shall maintain the right of access to the site throughout the postclosure period.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-02.1-07. Permit modification, suspension, or revocation.

1. A permit may be modified, suspended, revoked, or denied by the department for reasons pertaining to: circumstances that do not meet the purpose and provisions of this article, the provisions of the permit, or the plans and specifications submitted as part of the application for permit; or, violations of any applicable laws or rules. The department shall provide written notice to the permittee.
2. If a change occurs during the life of a permit for transporting solid waste (such as the number or type of vehicles used to transport waste, the service area, the waste categories transported, or the solid waste management facilities use), the permittee shall notify the department in writing within thirty days.
3. If a change occurs during the life of a permit for a solid waste management unit or facility, as specified in subsection 4, the permittee shall apply for and receive a modification of the permit prior to enacting the change. Routine maintenance, repair, or replacement, or an increase in hours of operations may not be considered a construction or operation change. Changes, including frequency of monitoring and reporting, waste sampling or analysis method, schedules of compliance, and revised cost estimates for closure and postclosure may be effected through written notice to and approval by the department.
4. The following changes at a permitted solid waste management unit or facility require a major permit modification:

- a. A change to the facility boundaries or acreage;
 - b. An increase in average daily solid waste specified in the permit or permit application, calculated by weight or volume for any twelve consecutive months;
 - c. A change in the solid waste characteristics;
 - d. An increase or decrease in finished height or finished slope of a landfill;
 - e. Any increase in landfill trench or excavation depth;
 - f. A change in facility site development which will result in impact to or encroachment into a one hundred-year floodplain, a ravine, a wetland, or a drainageway;
 - g. A change in site drainage or management of runoff or run-on;
 - h. A change in facility site development which will result in disposal of wastes closer to site boundaries than originally approved;
 - i. The addition of solid waste management units, which, if sited independently, would require a permit; or
 - j. Other changes that could have an adverse effect on the safety, health, or welfare of nearby residents, property owners, or the environment.
5. An application for modification of a solid waste management unit or facility must follow the procedures and provisions of section 33.1-20-03.1-02.

History: Effective January 1, 2019.; amended effective July 1, 2020

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-02.1-08. Renewal of permit.

An application for renewal of any permit must be submitted at least sixty days prior to the expiration date. The application for renewal must follow the procedures and provisions of section 33.1-20-03.1-02. The conditions of an expired permit continue in force until the effective date of a new permit, if the permittee has submitted a timely and complete application for a new permit and the department, through no fault of the permittee, does not issue a new permit with an effective date on or before the expiration date of the previous permit.

History: Effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-03.1 PERMIT APPLICATION PROVISIONS

Section

33.1-20-03.1-01 Preapplication Procedures

33.1-20-03.1-02 Permit Application Procedures

33.1-20-03.1-03 Permit Application Review and Action

33.1-20-03.1-04 Permit Application Review Timeline

33.1-20-03.1-01. Preapplication procedures.

1. For all new solid waste management facilities subject to the location standards of subsection 2 of section 33.1-20-04.1-01, a preapplication consisting of a preliminary facility description and a site assessment must be submitted to the department for review prior to submitting a permit application.
 - a. The preliminary facility description must include, at a minimum, the location of the facility; a projection of capacity, size, daily waste receipts, type of waste accepted, years of operation, description of operation, and costs; and a discussion of the proposed facility's compliance with local zoning requirements and the district waste management plan.
 - b. The preliminary site assessment must include available information pertaining to the site's geology, hydrogeology, topography, soils, and hydrology based on existing information.
2. Within sixty days of receipt of a preapplication, the department will provide written notification of approval or disapproval of the preapplication. If, after review of all information received, the department makes the determination to disapprove the preapplication, the department shall inform the applicant in writing of the reasons for the disapproval. If the preapplication is disapproved, the applicant may submit a new preapplication. A disapproval must be without prejudice to the applicant's right to a hearing before the department pursuant to North Dakota Century Code chapter 28-32.
3. An application may be filed only after approval of the preapplication and a finding by the department, after consultation with the state geologist and state engineer, that the site is geologically and hydrogeologically suitable for further evaluation and consideration.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09, 23.1-08-13, 23.1-08-17; S.L. 2017, ch. 199, § 23

33.1-20-03.1-02. Permit application procedures.

1. An application for a permit must be submitted on forms available from the department by any person desiring to transport solid waste or to establish, construct, or operate a solid waste management unit or facility.
2. The application for a permit must be prepared by the applicant or the applicant's authorized agent and signed by the applicant.
3. One print copy and one searchable electronic copy of the application and supporting documents are required to be submitted to the department with the fee specified in chapter 33.1-20-15.
4. Upon the submission of an application for a permit for a new solid waste management unit or facility, the applicant shall publish a public notice indicating that an application has been submitted to the department. The public notice must indicate the type and location of the unit

or facility and must be made by two separate publications in the official county newspaper in the county in which the site or operation is located. The applicant shall provide proof of publication by submitting to the department, within sixty days after the second publication of the notice, and affidavit from the publisher accompanied by a copy of the published notice, which shows the date of publication. The department may require public notice for facility changes listed in subsection 4 of section 33.1-20-02.1-07.

5. Applicants proposing a solid waste management facility in a mining permit area for disposal of coal processing waste must also file a copy of the application with the public service commission in accordance with subdivision a of subsection 1 of section 69-05.2-19-02.
6. Applications for a solid waste management unit or facility permit must include the following information where applicable:
 - a. A completed application form, subsection 1;
 - b. A description of the anticipated physical and chemical characteristics, estimated amounts, and sources of solid waste to be accepted, including the demonstration required by North Dakota Century Code section 23.1-08-14;
 - c. The site characterization of section 33.1-20-13-01 and a demonstration that the site fulfills the location standards of section 33.1-20-04.1-01;
 - d. Soil survey and segregation of suitable plant growth material;
 - e. Demonstrations of capability to fulfill the general facility standards of section 33.1-20-04.1-02;
 - f. Facility engineering specifications adequate to demonstrate the capability to fulfill performance, design, and construction criteria provided by this article and enumerated in this subdivision:
 - (1) Transfer stations and drop box facilities, section 33.1-20-04.1-06.
 - (2) Waste piles, section 33.1-20-04.1-07.
 - (3) Resource recovery, section 33.1-20-04.1-08.
 - (4) Land treatment, section 33.1-20-04.1-09 and chapter 33.1-20-09.
 - (5) Non-CCR surface impoundments, section 33.1-20-04.1-09 and chapter 33.1-20-08.1.
 - (6) Any disposal, section 33.1-20-04.1-09.
 - (7) Inert waste landfill, chapter 33.1-20-05.1.
 - (8) Municipal waste landfill, chapter 33.1-20-06.1.
 - (9) Industrial waste landfill, chapters 33.1-20-07.1 or 33.1-20-10.
 - (10) TENORM waste landfill, chapters 33.1-20-07.1 or 33.1-20-10 and 33.1-20-11.
 - (11) Special waste landfill, chapter 33.1-20-07.1
 - (12) CCR unit, chapter 33.1-20-08.
 - (13) Municipal solid waste ash landfills, chapter 33.1-20-10.

- (14) Regulated infectious waste unit, chapter 33.1-20-12;
- g. The plan of operation of section 33.1-20-04.1-03;
 - h. Demonstration of the treatment technology of section 33.1-20-01.1-12;
 - i. The place where the operating record is or will be kept, section 33.1-20-04.1-04;
 - j. Demonstration of capability to fulfill the ground water monitoring standards, sections 33.1-20-08-06 or 33.1-20-13-02;
 - k. Construction quality assurance and quality control;
 - l. Demonstrations of capability to fulfill the closure standards, section 33.1-20-04.1-05 and otherwise provided by this article;
 - m. Demonstrations of capability to fulfill the postclosure standards, section 33.1-20-04.1-09 and otherwise provided by this article; and
 - n. A disclosure statement as required by North Dakota Century Code section 23.1-08-17.
7. Applications for a solid waste transporter's permit must include the following information:
- a. A completed application form, subsection 1;
 - b. Description of the types of solid waste to be transported, approximate quantities, and anticipated collection sources;
 - c. A list of the anticipated solid waste management facilities that will store, treat, process, recycle, or dispose the solid waste;
 - d. Description of equipment and transportation spill prevention as required by section 33.1-20-01.1-05; and
 - e. A disclosure statement as required by North Dakota Century Code section 23.1-08-17.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09, 23.1-08-14, 23.1-08-17; S.L. 2017, ch. 199, § 23

33.1-20-03.1-03. Permit application review and action.

1. The department will review the applications, plans, and specifications for solid waste transporters and for solid waste management facilities and information submitted as a result of the public notices.
2. Upon completion of the department's review, the application for permit will be approved, returned for clarification and additional information, or denied.
 - a. The basis for approval must be an application which demonstrates compliance with this article and North Dakota Century Code chapter 23.1-08.
 - b. The basis for return must be an application which is procedurally or technically incomplete, inaccurate, or deficient in detail, or which precludes an orderly review and evaluation. If the application is returned, the applicant may resubmit an application, complete with all necessary information to satisfy deficiencies. If the applicant does not resubmit an application within six months, the department shall consider the application withdrawn, and any subsequent application must be considered a new application.

- c. The basis for denial must be an application which contains false, misleading, misrepresented, or substantially incorrect or inaccurate information; fails to demonstrate compliance with this article; proposes construction, installation, or operation of a solid waste management unit or facility which will result in a violation of any part of this article; or is made by an applicant for whom an environmental compliance background review reveals any of the circumstances listed in subsection 14 of North Dakota Century Code section 23.1-08-03.
3. If the department makes a preliminary determination to issue a permit for a solid waste management facility or for a general permit, the department shall prepare a draft permit. The department may impose reasonable conditions upon a permit. The draft permit will be available for public review and comment after the department publishes a notice of its consideration to issue the permit.

The public notice for a draft solid waste management facility permit must be published in the official county newspaper in the county in which the solid waste management unit or facility is located and in a daily newspaper of general circulation in the area of the facility. The public notice for a draft general permit must be published in all daily newspapers of general circulation in the state.

- a. Interested persons may submit written comments to the department on the draft permit within thirty days of the final public notice. All written comments will be considered by the department in the formulation of its final determinations.
 - b. The department may hold a hearing if it determines there is significant public interest in holding such a hearing. Public notice for a hearing will be made in the same manner as for a draft permit. The hearing will be before the department and will be held at least fifteen days after the public notice has been published.
4. If, after review of all information received, the department approves the permit application, the department shall:
- a. Issue a permit if it is for the renewal of an existing solid waste management facility or a solid waste management facility operated as part of an energy conversion facility or part of a surface coal mining and reclamation operation, if the solid waste management facility disposes of only waste generated by the energy conversion facility or surface coal mining and reclamation operation; or
 - b. Notify the board of county commissioners in which a new solid waste management facility will be located of the intent to issue a permit, and the county's opportunity to call a special election to be held within sixty days after receiving notice from the department to allow the qualified electors of the county to vote to approve or disapprove of the facility based on public interest and impact on the environment. If a majority vote to disapprove of the facility, the department may not issue the permit and the facility may not be located in that county. If the voters approve the facility or if a special election is not called, the department shall issue the permit.
5. If, after review of all information received, the department makes the determination to deny the permit, the applicant will be notified, in writing, of the denial. The department shall set forth in any notice of denial the reasons for denial. If the application is denied, the applicant may submit a new application, which will require a new public notice. A denial must be without prejudice to the applicant's right to a hearing before the department pursuant to North Dakota Century Code chapter 28-32.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-03.1-04. Permit application review timeline.

Upon receipt of a permit application, the department has one hundred twenty days to review and approve or disapprove the application and notify the applicant of the decision. The department may extend the period an additional one hundred twenty days if the applicant submits a significant change that in the department's judgment requires additional time to review.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-04.1 GENERAL PERFORMANCE STANDARDS

Section

- 33.1-20-04.1-01 General Location Standards
- 33.1-20-04.1-02 General Facility Standards
- 33.1-20-04.1-03 Plan of Operation
- 33.1-20-04.1-04 Recordkeeping and Reporting
- 33.1-20-04.1-05 General Closure Standards
- 33.1-20-04.1-06 Transfer Stations, Processing Systems, and Drop Box Facilities
- 33.1-20-04.1-07 Piles Used for Storage and Treatment - Standards
- 33.1-20-04.1-08 Treatment and Resource Recovery Facilities
- 33.1-20-04.1-09 General Disposal Standards
- 33.1-20-04.1-10 Other Methods of Solid Waste Management - Standards

33.1-20-04.1-01. General location standards.

1. No solid waste management facility may be located in areas which result in impacts to human health or environmental resources or in an area which is unsuitable because of reasons of topography, geology, hydrology, or soils.
2. Sites for new, or for lateral expansions of, land treatment units, surface impoundments closed with solid waste in place, municipal waste landfills, industrial waste landfills, and special waste landfills must minimize, control, or prevent the movement of waste or waste constituents with geologic conditions and engineered improvements. Sites should be underlain by materials with low permeability to provide a barrier to contaminant migration. Sites for CCR units subject to chapter 33.1-20-08 must also comply with the location standards of section 33.1-20-08-03.
 - a. The following geographic areas or conditions must be excluded in the consideration of a site:
 - (1) Where the waste is disposed within an aquifer;
 - (2) Within a public water supply designated wellhead protection area;
 - (3) Within a one hundred-year floodplain;
 - (4) Where geologic or manmade features, including underground mines, may result in differential settlement and failure of a structure or other improvement on the facility;
 - (5) On the edge of or within
 - (a) Channels;
 - (b) Ravines;
 - (c) Areas of steep topography whose slope is unstable due to erosion or mass movement;
 - (6) Within woody draws; or
 - (7) In areas designated as critical habitats for endangered or threatened species of plant, fish, or wildlife.
 - b. The following geographic areas or conditions may not be approved by the department as a site unless the applicant demonstrates there are no reasonable alternatives:

- (1) Over or immediately adjacent to principal glacial drift aquifers identified by the state engineer;
- (2) Closer than one thousand feet [304.8 meters] to a down gradient drinking water supply well;
- (3) Closer than two hundred feet [60.96 meters] horizontally from the ordinary high water elevation of any surface water or wetland;
- (4) Within final cuts of surface mines; or
- (5) Closer than one thousand feet [304.8 meters] to any state or national park.

c. The department may establish alternative criteria based on specific site conditions.

3. No municipal waste landfill or lateral expansion may be located within ten thousand feet [3,048 meters] of any airport runway currently used by turbojet aircraft or five thousand feet [1,524 meters] of any runway currently used by only piston-type aircraft. Owner or operators proposing a new site or lateral expansions for a municipal waste landfill within a five-mile [8.05-kilometer] radius of an airport must notify the affected airport and the federal aviation administration.
4. A minimum horizontal separation of twenty-five feet [7.62 meters] must be maintained between new or lateral expansions of solid waste management units and any aboveground or underground pipeline or transmission line. The owner shall designate the location of all such lines and easements.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-04.1-02. General facility standards.

An owner or operator of a solid waste management facility shall comply with these general facility standards:

1. All personnel involved in solid waste handling and in the facility operation or monitoring must be instructed in specific procedures to ensure compliance with the permit, the facility plans, and this article as necessary to prevent accidents and environmental impacts. Documentation of training, such as names, dates, description of instruction methods, and copies of certificates awarded, must be placed in the facility's operating record.
2. The solid waste management facility shall comply with the water protection provisions of chapter 33.1-20-13.
3. The solid waste management facility may not cause a discharge of pollutants into waters of the state unless such discharge is in compliance with requirements of the North Dakota pollutant discharge elimination system pursuant to chapter 33.1-16-01.
4. The solid waste management facility may not cause a violation of the ambient air quality standard or odor rules, article 33.1-15, at the facility boundary.
5. Suitable control measures must be taken whenever fugitive dust is a nuisance or exceeds the levels specified in article 33.1-15.
6. Open burning is prohibited except as allowed under article 33.1-15.

7. A permanent sign must be posted at the entrance of a facility, or at the entrance of a solid waste management unit used by a facility for wastes generated onsite, which indicates the following:
 - a. The name of the facility;
 - b. The permit number;
 - c. The name and telephone number of the owner and the operator if different than the owner;
 - d. The days and hours the facility is open for access;
 - e. The wastes not accepted for disposal; and
 - f. Any restrictions for trespassing, burning, hauling, or nonconforming dumping.
8. The owner or operator of a facility shall periodically inspect solid waste managed at the facility, on a schedule proposed by the owner or operator and approved by the department, to control and reject unauthorized solid wastes as specified by this article, a permit, or a plan of operation.
9. All litter or windblown rubbish, trash, or garbage must be returned to collection containers or vehicles, to storage containers or areas, or to a solid waste management facility as soon as practicable.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-04.1-03. Plan of operation.

All solid waste management facilities, except those permitted by rule, shall meet the requirements of this section.

1. The owner or operator of a solid waste management unit or facility shall prepare and implement a plan of operation approved by the department as part of the permit. The plan must describe the facility's operation to operating personnel and the facility must be operated in accordance with the plan. The plan of operation must be available for inspection at the request of the department. Each plan of operation must include, where applicable:
 - a. A description of waste acceptance procedures, including categories of solid waste to be accepted and waste rejection procedures as required by subsection 2 of section 33.1-20-05.1-02 or subsection 8 of section 33.1-20-06.1-02 or subsection 2 of section 33.1-20-07.1-01 or subsection 4 of section 33.1-20-10-03;
 - b. A description of waste handling procedures;
 - c. A description of facility inspection activities required by subsection 2, including frequency;
 - d. A description of contingency actions for the following:
 - (1) Fire or explosion;
 - (2) Leaks;
 - (3) Ground water contamination;

- (4) Other releases (for example, dust, debris, leachate, failure of run-on diversion or runoff containment systems); and
 - (5) Any other issues pertinent to the facility.
- e. Leachate removal system operation and maintenance procedures;
- f. Safety procedures;
- g. For landfills, implementation of sequential partial closure;
- h. A description of industrial waste or special waste management procedures, which include:
 - (1) A procedure for notifying solid waste generators and haulers of the facility operating requirements and restrictions;
 - (2) A procedure for evaluating waste characteristics, liquid content, the specific analyses that may be required for specific wastes, and the criteria used to determine when analyses are necessary, the frequency of testing, and the analytical methods to be used;
 - (3) A procedure for inspecting and for identifying any special management requirements, and the rationale for accepting or rejecting a waste based on its volume and characteristics;
 - (4) Procedures for managing the following solid waste, as appropriate:
 - (a) Bulk chemical containers which contain free product or residue;
 - (b) Asbestos;
 - (c) Waste containing polychlorinated biphenyls at a concentration less than fifty parts per million;
 - (d) Radioactive waste;
 - (e) Rendering and slaughterhouse waste;
 - (f) Wastes that could spontaneously combust or that could ignite other waste because of high temperatures;
 - (g) Foundry waste;
 - (h) Ash from incinerators, resource recovery facilities, and power plants;
 - (i) Paint residues, paint filters, and paint dust;
 - (j) Sludges, including ink sludges, lime sludge, wood sludge, and paper sludge;
 - (k) Fiberglass, urethane, polyurethane, and epoxy resin waste;
 - (l) Spent activated carbon filters;
 - (m) Oil and gas exploration and production waste;
 - (n) Wastes containing free liquids;
 - (o) Contaminated soil waste from cleanup of spilled products or wastes; and

(p) Any other solid waste that the owner or operator plans to handle.

(5) The owner or operator must describe any solid waste that will not be accepted at the facility; and

i. The owner or operator must amend the plan whenever operating procedures, contingency actions, waste management procedures, or wastes have changed. The owner or operator shall submit the amended plan to the department for approval or disapproval.

2. The owner or operator shall inspect the facility to ensure compliance with this article, a permit, and approved plans. The owner or operator shall keep an inspection log including information such as the date of inspection, the name of the inspector, a notation of observations made, and the date and nature of any repairs or corrective action taken.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-04.1-04. Recordkeeping and reporting.

The owner or operator of a solid waste management facility, except those permitted by rule, shall comply with these recordkeeping and reporting requirements:

1. A solid waste management facility may not accept solid waste until the department has received and approved a report which includes narrative, drawings, and test results to certify that the facility has been constructed in accordance with the approved plans and specifications and as required by the permit.
2. An owner or operator shall keep an operating record consisting of a copy of each application, plan, report, notice, drawing, inspection log, test result or other document required by this article, including those enumerated in the subdivisions of this subsection, or a permit. The operating record must include any deviations from this article, the permit, and facility plans where department approval is required. The owner or operator shall provide a copy of any document in the operating record upon receiving a request from the department. The operating record must be kept at the facility, or at a location near the facility within North Dakota and approved by the department.
 - a. The permit preapplication, section 33.1-20-03.1-01.
 - b. The permit application, section 33.1-20-03.1-02.
 - c. An amended permit application, section 33.1-20-03.1-03.
 - d. The site characterization, section 33.1-20-13-01.
 - e. Any site demonstrations, section 33.1-20-04.1-01.
 - f. Documentation of training, section 33.1-20-04.1-02.
 - g. The plan of operation, section 33.1-20-04.1-03.
 - h. Facility inspection logs, section 33.1-20-04.1-03.
 - i. Records of notice, section 33.1-20-02.1-05.
 - j. As-built drawings and certifications, sections 33.1-20-04.1-04 and 33.1-20-04.1-05.

- k. The ground water monitoring plan, all monitoring data, and statistical interpretations, section 33.1-20-13-02.
 - l. Records of the weight or volume of waste, section 33.1-20-04.1-09.
 - m. The closure plan, sections 33.1-20-04.1-05 and 33.1-20-14-02.
 - n. The postclosure plan, sections 33.1-20-04.1-09 and 33.1-20-14-02.
 - o. The financial assurance instruments for closure and postclosure, chapter 33.1-20-14.
 - p. Records of gas monitoring and remediation, section 33.1-20-06.1-02.
 - q. The annual report, section 33.1-20-04.1-04.
 - r. Notices of intent to close and completion of postclosure, sections 33.1-20-04.1-05 and 33.1-20-04.1-09 respectively.
 - s. The permit and any modifications, sections 33.1-20-02.1-04 and 33.1-20-02.1-07.
3. An owner or operator shall prepare and submit a searchable electronic copy of an annual report to the department by March first of each year. The annual report must cover facility activities during the previous calendar year and must include the following information:
- a. Name and address of the facility;
 - b. Calendar period covered by the report;
 - c. Annual quantity for each category of solid waste in tons or volume;
 - d. Identification of occurrences and conditions that prevented compliance with the permit and this article; and
 - e. Other items identified in the facility plans and permit.
4. An owner or operator required to monitor ground water pursuant to chapter 33.1-20-13 shall prepare and submit a ground water annual report to the department by April first of each year. The ground water annual report must cover ground water analysis for the facility during the previous calendar year and must include the following information:
- a. Name and address of the facility;
 - b. Calendar period covered by the report;
 - c. A map, aerial image, or diagram showing the solid waste unit and all background (or upgradient) and downgradient monitoring wells and the well identification numbers for the wells that are part of the ground water monitoring program for the solid waste unit;
 - d. Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;
 - e. All monitoring data obtained and a summary including the number of ground water samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;
 - f. Statistical interpretations;

- g. A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituents detected at a statistically significant increase over background levels);
- h. Identification of occurrences and conditions that prevented compliance with the permit or this article; and
- i. Other items identified in the facility plans and permit.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-04.1-05. General closure standards.

The requirements of this section apply to all solid waste management facilities, unless otherwise specified.

1. Each owner or operator shall close their facility in a manner that achieves the following:
 - a. Minimizes the need for further maintenance; and
 - b. Controls, minimizes, or eliminates any escape of solid waste constituents, leachate, fugitive emissions, contaminated runoff, or waste decomposition products.
2. Sequential partial closure must be implemented to minimize the working face of a landfill.
3. Closure must be implemented within thirty days after receipt of the final volume of waste and must be completed within one hundred eighty days following the beginning of closure activities, unless otherwise specified and approved under subsection 5. Prior to beginning closure, the owner or operator must notify the department in writing of the intent to close.
4. The owner or operator of a landfill for which closure is completed in part or whole shall enter into the operating record and submit to the department:
 - a. As-built drawings showing the topography, pertinent design features, extent of waste, and other appropriate information; and
 - b. Certification by the owner or operator and a qualified professional engineer that closure has been completed in accordance with the approved closure plan and this article.
5. Each owner or operator shall prepare and implement a written closure plan approved by the department as part of the permitting process. The closure plan must:
 - a. Estimate the largest area ever requiring final cover at any time during the active life of the site;
 - b. Estimate the maximum inventory of solid waste onsite over the active life of the facility;
 - c. For landfills, describe the final cover and the methods to install the cover;
 - d. Project time intervals at which sequential partial closure or closure is to be implemented;
 - e. Describe the resources and equipment necessary for closure; and
 - f. Identify closure costs estimates and provide financial assurance mechanisms as required by chapter 33.1-20-14.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-04.1-06. Transfer stations, processing systems, and drop box facilities.

1. Transfer stations and processing systems must be designed, constructed, and operated to meet the following, where applicable:
 - a. Control access and maintain aesthetics with a combination of fencing, trees, shrubbery, or natural features;
 - b. Be sturdy and constructed of easily cleanable material;
 - c. Provide effective control of birds, rodents, insects, and other vermin;
 - d. Be adequately screened to prevent and control blowing of litter;
 - e. Provide protection of the tipping floor from wind, rain, or snow;
 - f. Minimize noise and dust nuisances;
 - g. Provide pollution control measures to protect surface water and ground water including runoff and equipment wash down water control measures;
 - h. Provide all-weather access roads and vehicular traffic areas;
 - i. Provide any necessary pollution control measures to protect air quality including odor and dust control and prohibit burning;
 - j. Prohibit scavenging;
 - k. Have communication capabilities to immediately summon fire, police, or emergency personnel in the event of an emergency; and
 - l. Remove all solid waste from the facility at closure to a permitted facility.
2. Drop box facilities must:
 - a. Be accessible by all-weather roads;
 - b. Be designed and serviced as often as necessary to ensure adequate capacity. Storage of solid waste outside the detachable containers is prohibited; and
 - c. Remove all remaining solid waste to a permitted facility and remove the drop box from the facility at closure.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-04.1-07. Piles used for storage and treatment - Standards.

This section is applicable to solid waste stored or treated in piles, composting, sludge piles, scrap tire piles, garbage which is in place for more than three days, putrescible waste, other than garbage, which is in place for more than three weeks, and other solid waste not intended for recycling which is in place for more than three months.

1. Vector control measures must be instituted when necessary to prevent the transmission of disease and otherwise prevent and reduce hazards created by rats, snakes, insects, birds, cats, dogs, skunks, and other animals or vermin.
2. An owner and operator of a waste pile, except composting of grass and leaves, shall:
 - a. Comply with the general facility standards of section 33.1-20-04.1-02; and
 - b. Maintain the site including the removal of all solid waste, as necessary, and at closure to a permitted facility, or otherwise manage the waste that is in keeping with the purpose of this article.
3. Requirements for waste piles likely to produce a leachate are:
 - a. Waste piles must be underlain by concrete, asphalt, clay, or an artificial liner. The liner must be of sufficient thickness and strength to withstand stresses imposed by waste handling equipment and the pile;
 - b. Runoff and run-on control systems must be designed, installed, and maintained to handle a twenty-five-year, twenty-four-hour storm event;
 - c. Based on site and waste characteristics and the proposed operation, the department may require that waste piles have the following:
 - (1) A ground water monitoring system that complies with chapter 33.1-20-13;
 - (2) A leachate collection and treatment system; and
 - (3) Financial assurance; and
 - d. The department may require that the entire base or liner be inspected for wear and integrity and repaired or replaced by removing storage waste or otherwise providing inspection access to the base or liner.
4. An owner or operator of a tire pile shall:
 - a. Control access to the tire pile by fencing;
 - b. Limit piles of scrap tires to a maximum basal area of ten thousand square feet [929 square meters] in size, which, along with the fire lane, must be underlain by concrete, asphalt, clay overlain with gravel, or other appropriate material of sufficient thickness, strength, and low permeability to withstand stresses imposed by waste handling equipment, fire control equipment, and to minimize liquid infiltration in case of a fire;
 - c. Limit the height of the tire pile to twenty feet [6.1 meters];
 - d. Provide for a fifty-foot [15.24-meter] fire lane around the tire pile;
 - e. Provide site access by fire control equipment;
 - f. Provide run-on and runoff control systems adequate to control surface water from a twenty-five-year, twenty-four-hour precipitation event; and
 - g. Provide financial assurance adequate to remove stockpiled waste and to remediate environmental contingencies.
5. An owner or operator of a composting facility for grass and leaves shall:

- a. Direct surface water or storm water from composting and waste storage areas;
- b. Control surface water drainage to prevent leachate runoff;
- c. Store solid waste separated from compostable material in a manner that controls vectors and aesthetic degradation, and remove this solid waste from the site to an appropriate facility at least weekly;
- d. Turn the yard waste periodically to aerate the waste, maintain temperatures, and control odors; and
- e. Prevent the occurrence of sharp objects greater than one inch [2.54 centimeters] in size in finished compost offered for use.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-04.1-08. Treatment and resource recovery facilities.

In addition to sections 33.1-20-04.1-02, 33.1-20-04.1-03, 33.1-20-04.1-04, and 33.1-20-04.1-05, the owner or operator of a facility which conducts treatment or resource recovery other than processing shall comply with these standards.

1. All liquids must be collected and treated to meet the water protection provisions of chapter 33.1-20-13.
2. Surface water must be diverted away from all open storage areas.
3. Solid waste must be confined to storage containers and areas specifically designed to store waste. Waste handling and storage systems must provide sufficient excess capacity to prevent nuisances, environmental impacts, or health hazards in the event of mechanical failure or unusual waste flows.
4. Resource recovery systems or facilities must be operated on first-in, first-out basis. Stored solid waste containing garbage may not be allowed to remain unprocessed for more than forty-eight hours unless adequate provisions are made to control flies, rodents, odors, or other environmental hazards or nuisances.
5. All solid waste, recovered materials, or residues must be controlled and stored in a manner that does not constitute a fire or safety hazard or a sanitary nuisance.
6. All residues from resource recovery systems or facilities must be handled and disposed according to this article.
7. All incinerators used for solid waste must be constructed and operated in compliance with article 33.1-15.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-08, 23.1-08-15; S.L. 2017, ch. 199, § 23

33.1-20-04.1-09. General disposal standards.

1. In addition to sections 33.1-20-04.1-02, 33.1-20-04.1-03, 33.1-20-04.1-04, and 33.1-20-04.1-05, the standards of this section apply to all landfills, surface impoundments closed with solid waste in place, and land treatment units, unless otherwise indicated.

2. Construction and operation standards for solid waste management facilities regulated by this section:
 - a. Every solid waste landfill or facility shall have and maintain, or have access to, equipment adequate for the excavation, compaction, covering, surface water management, and monitoring procedures required by approval plans and this article.
 - b. Roads must be constructed and maintained to provide access to the facility. Access roads must be cleaned and decontaminated as necessary.
 - c. There must be available an adequate supply of suitable cover material, which, if necessary, must be stockpiled and protected for winter operation.
 - d. The final cover of all disposal facilities must be designed and constructed in a manner that ensures the quality and integrity of the hydraulic barrier and the protective vegetative cover.
 - e. The working face or open area of a landfill must be limited in size to as small an area as practicable. Sequential partial closure must be implemented as necessary to keep the disposal area as small as practicable and to close filled areas in a timely manner.
 - f. All disposal facilities shall identify, quantify, remove, stockpile, and maintain suitable plant growth material for later use in closure.
 - g. Any recycling or salvage activity must be authorized by the owner or operator and must be in a separate area in a manner to avoid injury and interference with the landfill operation.
 - h. Vehicles, farm machinery, metal appliances, mobile homes, trailers, or other similar items brought to the facility for recycling may be stored temporarily in a separate area.
 - i. Vector control measures, in addition to the application of cover material, must be instituted whenever necessary to prevent the transmission of disease, prevent bird hazards to aircraft, and otherwise prevent and reduce hazards created by rats, flies, snakes, insects, birds, cats, dogs, and skunks.
 - j. All domestic animals must be excluded from the facility. Feeding of garbage to animals is prohibited.
 - k. All earthen material must be maintained onsite unless removal from the site is authorized by the department.
3. Construction and operation standards, excluding inert waste landfills.
 - a. The landfill must be designed and operated to prevent the run-on and runoff of surface waters resulting from a maximum flow of a twenty-five-year, twenty-four-hour storm.
 - b. Facilities receiving on average over twenty tons [18.2 metric tons] per day of solid waste shall make provisions for measuring all waste delivered to and disposed in the facility. Weight measurements are preferable; volume measurements (cubic yards) are acceptable.
 - c. Active areas of the landfill must be surveyed periodically to ensure that filling is proceeding in a manner consistent with the landfill design and that closure grades are not exceeded.

- d. All run-on or runoff must be properly controlled to avoid its concentration on or in solid waste and to minimize infiltration into the waste material. Disposal shall avoid any areas within the facility where run-on or runoff accumulates.
 - e. Leachate removal systems must be operated and maintained to assure continued function according to the design efficiency. This shall include, where applicable:
 - (1) Flushing, inspection and, if necessary, repair of collection lines after placement of the first layer of waste in a landfill cell;
 - (2) Annual sampling and analysis of leachate for the parameters required under the ground water quality monitoring required under section 33.1-20-13-02;
 - (3) At minimum, semiannual monitoring of leachate head or elevations above the liner;
 - (4) Annual flushing of leachate collection lines to remove dirt and scale; and
 - (5) Inclusion of leachate removal system operation, inspection, and maintenance procedures in the operating record.
 - f. No composite liner may be exposed to freezing more than one winter season, excluding composite liners in surface impoundments. At least three feet [0.91 meters] of solid waste or other material approved by the department must be placed above the upper drainage layer on all lined areas by December first. No disposal may take place after December first in areas that have not met this requirement without first testing the composite liner's integrity and receiving approval from the department.
4. Closure standards, excluding land treatment units.
- a. Closed solid waste management units may not be used for cultivated crops, heavy grazing, buildings, or any other use which might disturb the protective vegetative and soil cover.
 - b. All solid waste management units must be closed with a final cover designed to:
 - (1) Limit the amount of percolation that may enter the waste to meet the efficiency requirements for that type of solid waste management unit;
 - (2) Minimize precipitation run-on from adjacent areas;
 - (3) Minimize erosion and optimize drainage of precipitation falling on the landfill. The grade of slopes may not be less than three percent, nor more than fifteen percent, unless the applicant or permittee provides justification to show steeper slopes are stable and will not result in long-term surface soil loss in excess of two tons [1.82 metric tons] per acre per year. In no instance may slopes exceed twenty-five percent, including exterior slope of any swales or drainage structures; and
 - (4) Provide a surface drainage system which does not adversely affect drainage from adjacent lands.
 - c. The final cover must include six inches [15.2 centimeters] or more of suitable plant growth material which must be seeded with shallow rooted grass or native vegetation.
 - d. The department may allow, on a case-by-case basis, the use of closed inert waste landfill sites for certain beneficial uses that would not pose a threat to human health or the environment.
5. Postclosure standards for solid waste management facilities regulated by this section.

- a. The owner or operator of a landfill or a surface impoundment closed with solid waste in place shall meet the following during the postclosure period:
 - (1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover to correct effects of settlement, subsidence, and other events, and preventing run-on and runoff from eroding or otherwise damaging the final cover;
 - (2) Maintain and operate the leachate collection system, if applicable;
 - (3) Monitor the ground water and maintain the ground water monitoring system, if applicable; and
 - (4) Operate and maintain the gas control system, if applicable.
- b. The owner or operator of a municipal waste landfill, an industrial waste landfill, a special waste landfill, a surface impoundment closed with solid waste remaining in place, or a land treatment facility shall prepare and implement a written postclosure plan approved by the department as a part of the permitting process. The postclosure plan must address facility maintenance and monitoring activities for a postclosure period of thirty years.
 - (1) Postclosure includes appropriate ground water monitoring; surface water monitoring; gas monitoring; and maintenance of the facility, facility structures, and ground water monitoring systems.
 - (2) The postclosure plan must provide the name, address, and telephone number of the person or office to contact during the postclosure period; and project time intervals at which postclosure activities are to be implemented, identify postclosure cost estimates, and provide financial assurance mechanisms as required by chapter 33.1-20-14.
 - (3) The department may require an owner or operator to amend the postclosure plan, including an extension of the postclosure period, and implement the changes. If the permittee demonstrates that the facility is stabilized, the department may authorize the owner or operator to discontinue postclosure activities.
- c. Following completion of the postclosure period, the owner or operator shall notify the department verifying that postclosure management has been completed in accordance with the postclosure plan.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-04.1-10. Other methods of solid waste management - Standards.

New and unique methods developed subsequent to July 1, 2020, which can be utilized without environmental degradation and creation of hazards to public health and safety will be considered by the department.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-05.1 INERT WASTE LANDFILLS

Section

33.1-20-05.1-01 Applicability
33.1-20-05.1-02 Performance and Design Criteria
33.1-20-05.1-03 Lime Sludge
33.1-20-05.1-04 Closure Criteria
33.1-20-05.1-05 Postclosure Criteria

33.1-20-05.1-01. Applicability.

An owner or operator of an inert waste landfill, which does not qualify for a permit by rule, shall comply with this chapter and with sections 33.1-20-04.1-02, 33.1-20-04.1-03, 33.1-20-04.1-04, 33.1-20-04.1-05, and 33.1-20-04.1-09. An inert waste landfill, which is permitted by rule, shall comply with section 33.1-20-02.1-02 and with this chapter, but is exempt from sections 33.1-20-04.1-03 and 33.1-20-04.1-04.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-05.1-02. Performance and design criteria.

The owner or operator of an inert waste landfill shall comply with these design, construction, and operating standards.

1. Access to the facility must be controlled by lockable gates and a combination of fencing, natural barriers, or artificial barriers.
2. Disposal of the following solid waste into inert waste landfills is prohibited: agricultural waste, asbestos waste, municipal waste, commercial waste, industrial waste, special waste, regulated infectious waste, liquid solid waste, hazardous waste, and radioactive waste.
3. All wastes deposited at the site must be spread and periodically compacted to promote drainage of surface water.
4. All wastes must be covered at least two times per year with a minimum of six inches [15.2 centimeters] of suitable earthen material.
 - a. The department may exempt the owner or operator of the landfill from this requirement based on the type and amount of waste received at the landfill and the site location.
 - b. This requirement does not apply to monofills used solely for bottom ash from coal-fired boilers that are not subject to chapter 33.1-20-08.
5. Inert waste permits must be limited to an area no larger than necessary to properly conduct permitted inert waste disposal activities. The department shall take into consideration each applicant's operating needs and conditions when evaluating this requirement in order to best achieve the purposes of this chapter.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, § 23

33.1-20-05.1-03. Lime sludge.

Lime sludge from a water treatment plant may be disposed in an inert waste landfill contingent upon departmental approval, which must be based upon factors such as site characteristics, site design, site operation, or permit conditions.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-05.1-04. Closure criteria.

In addition to sections 33.1-20-04.1-05 and 33.1-20-04.1-09, at closure, an owner or operator shall cover an existing unit with a layer of compacted clay-rich earthen material having a thickness of twelve inches [30.5 centimeters] or more and free from cracks and extrusions of solid waste. A second layer of six inches [15.2 centimeters] or more of clay-rich soil material suitable for serving as a plant root zone must be placed over the compacted layer. At least six inches [15.2 centimeters] of suitable plant growth material must be placed over the covered landfill and the facility planted with adapted grasses. The total thickness of the final cover must be at least two feet [61.0 centimeters]. If a total cover thickness of four feet [1.2 meters] or more of clay-rich earthen material is achieved, including the six-inch layer of suitable plant growth material, compaction is not required.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-05.1-05. Postclosure criteria.

Owners or operators of inert waste landfills shall conduct annual postclosure inspections for a period of five years after closure.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-06.1 MUNICIPAL WASTE LANDFILLS

Section

33.1-20-06.1-01 Applicability

33.1-20-06.1-02 Performance and Design Criteria

33.1-20-06.1-03 Closure Criteria

33.1-20-06.1-01. Applicability.

The requirements of this chapter and of sections 33.1-20-01.1-08, 33.1-20-04.1-02, 33.1-20-04.1-03, 33.1-20-04.1-04, 33.1-20-04.1-05, and 33.1-20-04.1-09 apply to owners and operators of municipal waste landfills, except that the department may allow alternate performance and design criteria, as specified in subsections 2 and 3 of section 33.1-20-06.1-02, and it may waive section 33.1-20-04.1-03 for a municipal waste landfill receiving less than twenty tons [18.2 metric tons] per day based upon factors such as the site's climate, hydrogeology, topography, geology, ground water quality and location, and the type of wastes received. In addition to the requirements of this chapter, municipal solid waste landfills receiving on average more than five hundred tons [455 metric tons] per day shall comply with section 33.1-20-10-03, subsection 2 of section 33.1-20-10-04, and section 33.1-20-10-05.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-06.1-02. Performance and design criteria.

The owner or operator of a municipal waste landfill facility shall comply with these design, construction, and operating standards.

1. Access to the facility must be controlled by lockable gates and a combination of fencing, natural barriers, or artificial barriers. The gates must be locked when an attendant is not on duty.
2. Any new or lateral expansion of a municipal waste landfill must be underlain with a hydraulic barrier and leachate removal system capable of collecting and removing leachate and contaminated surface water within the landfill.
 - a. The liner and leachate removal system must be compatible with the waste and leachate.
 - b. The liner and leachate removal system must maintain its integrity for the life of the facility and the postclosure period.
 - c. The leachate removal system must have a collection efficiency of ninety percent or better and be capable of maintaining a hydraulic head of twelve inches [30.5 centimeters] or less above the liner.
 - d. The liner must consist of one of the following:
 - (1) A natural soil liner constructed of at least four feet [1.2 meters] of natural soil having a hydraulic conductivity not to exceed 1×10^{-7} centimeters per second; or
 - (2) A composite liner consisting of two components; the upper component must consist of a minimum thirty mil flexible membrane liner, and the lower component must consist of at least a two-foot [61.0-centimeter] layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second. Flexible membrane liner components consisting of high density polyethylene must be at

least sixty mil thick. The flexible membrane liner component must be installed in direct and uniform contact with the compacted soil component.

- e. The drainage layer of the leachate removal system must have a hydraulic conductivity of 1×10^{-3} centimeters per second or greater throughout. The drainage layer must have sufficient thickness to provide a transmissivity of 3.0×10^{-2} centimeters squared per second or greater.
 - f. Appropriate measures must be provided as necessary for preparation of the liner subgrade, quality assurance, and quality control testing of the construction of the liner and leachate removal system, and protection and maintenance of the liner and leachate removal system to ensure the integrity of the system.
 - g. An alternative liner and leachate removal system for a landfill site may be approved by the department. The department must consider factors such as the proposed system's ability to control leachate migration, the hydrogeologic characteristics of the site and surrounding land, the climate of the area, or the potential leachate quality.
3. The liner and leachate removal system in combination with the final cover must achieve a site efficiency of ninety-five percent or better for rejection or collection of the precipitation that falls on the site.
4. Methane and other gases from waste decomposition may not be allowed to migrate laterally from the landfill so as to endanger structures, environmental resources, or adjacent properties.
- a. The concentration of methane gas generated by landfills on the facility must not exceed twenty-five percent of the lower explosive limit for methane in structures or appurtenances on the facility.
 - b. The concentration of methane gas must not exceed the lower explosive limit for methane at the facility boundary.
 - c. Monitoring of methane gas must be conducted at least quarterly, on a schedule proposed by the owner or operator and approved by the department, to assure that the standards of subdivisions a and b are met. The frequency of monitoring must consider such factors as the facility site conditions, hydrogeologic conditions surrounding the site, or climate of the area.
 - d. If methane gas levels exceed the standards of subdivisions a and b, the owner or operator must:
 - (1) Immediately take action to protect public health;
 - (2) Notify the department within seven days; and
 - (3) Implement remedial measures within sixty days.
5. A certified operator must be on duty while the facility is receiving solid waste. Facilities receiving on average over twenty tons [18.2 metric tons] of municipal waste per day shall have an attendant at or near the entrance to the facility to monitor, accept or reject, measure, and record wastes arriving at the facility.
6. Solid waste must be unloaded at the bottom of the working face of the fill. The waste must then be spread in layers and compacted as densely as practicable. Each layer may not exceed a thickness of two feet [61.0 centimeters] of material after compaction is completed.

7. Household pet animal carcasses may be buried along with other municipal household waste. Larger animal carcasses must be disposed of immediately and must be placed at least four feet [1.2 meters] below grade with at least twelve inches [30.5 centimeters] of cover material directly covering the carcass.
8. The following wastes may not be accepted for disposal in municipal waste landfills unless approved by the department:
 - a. Hazardous waste, except in amounts normally in municipal waste;
 - b. Industrial waste, if not addressed in the industrial waste management plan and the permit;
 - c. Lead acid batteries;
 - d. Liquids, except in amounts normally in household waste, unless the liquid is leachate or gas condensate derived from the municipal solid waste landfill and the municipal solid waste landfill, whether it is a new or existing landfill or a lateral expansion, is designed with a composite liner and leachate collection system as described in this section;
 - e. Major appliances;
 - f. Municipal waste incinerator ash;
 - g. Other waste, if the department determines that such waste has toxic or adverse characteristics which can impact public health or environmental resources;
 - h. Pesticide containers which are not empty and have not been triple-rinsed, except those normally in municipal waste;
 - i. Polychlorinated biphenyls (PCB) waste as defined in 40 CFR part 761;
 - j. Raw or digested sewage sludges, lime sludges, grit chamber cleanings, animal manure, septic tank pumpings, bar screenings, and other sludges, if not included in the permit;
 - k. Regulated infectious waste, except in amounts normally in household waste;
 - l. Special waste; and
 - m. Used oil.
9. A uniform compacted layer of six inches [15.2 centimeters] or more of suitable earthen material or other departmentally approved material must be placed on all solid waste by the end of each working day. All cover must be free of trash, garbage, or other similar waste.
10. On all areas where final cover or additional solid waste will not be placed within one month, an additional six inches [15.2 centimeters] or more of compacted, clay-rich earthen material or other departmentally approved material must be placed. This intermediate cover may be removed when disposal operations resume.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-08, 23.1-08-15; S.L. 2017, ch. 199, § 23

33.1-20-06.1-03. Closure criteria.

In addition to sections 33.1-20-04.1-05 and 33.1-20-04.1-09, at closure, an owner or operator shall cover an existing unit with a layer of compacted soil material having a thickness of eighteen inches

[45.7 centimeters] or more and a hydraulic conductivity of 1×10^{-7} centimeters per second or less. The compacted layer must be free from cracks and extrusions of solid waste. A second layer of twelve inches [30.5 centimeters] or more of clay-rich soil material suitable for serving as a plant root zone must be placed over the compacted layer. At least six inches [15.2 centimeters] of suitable plant growth material must be placed over the covered landfill and the facility planted with adapted grasses. The total depth of final cover must be three feet [91.4 centimeters] or more, as required to achieve subsection 3 of section 33.1-20-06.1-02. The requirements of this section may be modified by the department if the permit applicant demonstrates that an alternative design will appropriately limit percolation of liquid into the waste.

1. If the permit applicant wishes to pursue an alternative cover design, one of the following methods shall be used to demonstrate that the alternative cover design will appropriately limit the amount of percolation that may enter the waste:
 - a. Hydrologic modeling;
 - b. Lysimetry or instrumentation using a field-scale test section;
 - c. Comparison of the soil and climatic conditions at the site with the soil and climatic conditions at a site where the department has previously approved the same alternative cover design; or
 - d. Other method approved by the department.
2. To demonstrate that an alternative cover design will appropriately limit percolation of liquid into the waste, the alternative cover design must be shown to limit the average rate of percolation of liquid into wastes to an equal or lower value than the final cover design described in this section, or to an average long-term percolation rate less than 0.2 inches [5.0 millimeters] per year.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-07.1

SMALL VOLUME INDUSTRIAL WASTE LANDFILLS AND SPECIAL WASTE LANDFILLS

Section

33.1-20-07.1-01 Performance and Design Criteria

33.1-20-07.1-02 Closure Criteria

33.1-20-07.1-01. Performance and design criteria.

In addition to the requirements of section 33.1-20-01.1-11 and chapter 33.1-20-04.1, the owner or operator of an industrial waste landfill or a special waste landfill, excluding CCR landfills subject to chapter 33.1-20-08, shall comply with the design, construction, and operating standards as follows:

1. On all areas of the landfill where final cover or additional solid waste will not be placed within six months, eight inches [20.3 centimeters] or more of compacted clay-rich soil material, similar material, or a synthetic cover must be placed to prevent ponding of surface water, to minimize infiltration of surface water, and to control windblown dust.
2. Solid waste disposal in industrial waste landfills and special waste landfills must be limited to those wastes identified in the permit application or permit. Regulated infectious waste, used oil as a free liquid, and hazardous waste may not be accepted for disposal at the landfill. TENORM waste may only be accepted under the provisions of chapter 33.1-20-11.
3. All solid wastes deposited at the landfill must be spread and compacted as densely as practicable to minimize waste volume and promote drainage of surface water.
4. Any new or lateral expansion of an industrial waste landfill or special waste landfill must be designed with an appropriate hydraulic barrier and leachate management system capable of collecting and removing leachate and contaminated surface water within the disposal unit.
 - a. The liner and leachate removal system must be compatible with the waste and leachate.
 - b. The liner and leachate removal system must maintain its integrity during the operating period and through the postclosure period.
 - c. The system must have a collection efficiency of ninety percent or better and must be capable of maintaining a hydraulic head of twelve inches [30.5 centimeters] or less above the liner.
 - d. For landfills that receive wastes containing water soluble constituents, the liner must consist of at least four feet [1.2 meters] of compacted natural soil having a hydraulic conductivity not to exceed 1×10^{-7} centimeters per second.
 - e. A composite liner is required for landfills receiving TENORM waste or wastes which may contain leachable organic constituents. The liner must consist of at least three feet [91.4 centimeters] of recompacted clay with a hydraulic conductivity not to exceed 1×10^{-7} centimeters per second overlain with at least a sixty mil flexible membrane liner.
 - f. The drainage layer must have a hydraulic conductivity of 1×10^{-3} centimeters per second or greater throughout. The drainage layer must have a sufficient thickness to provide a transmissivity of 3×10^{-2} centimeters squared per second or greater.
 - g. The liner and leachate removal system in combination with the final cover must achieve a site efficiency of at least ninety-eight and one-half percent or better for collection or rejection of the precipitation that falls on the site.

- h. The requirements of this subsection for a liner, leachate collection system, or both liner and leachate collection system may be modified by the department if the permit applicant demonstrates that, based on factors such as geology and hydrology of the site, characteristics of the waste, and engineering design, any leachate migration can be prevented or controlled.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-03-03, 23.1-03-04, 23.1-08-03, 23.1-08-09; S.L. 2017, ch. 199, §§ 18, 23

33.1-20-07.1-02. Closure criteria.

In addition to sections 33.1-20-04.1-05 and 33.1-20-04.1-09, at closure, an owner or operator shall cover an existing unit with a layer of compacted soil material having a thickness of eighteen inches [45.7 centimeters] or more, and a saturated hydraulic conductivity of 1×10^{-7} centimeters per second or less. A second layer of twelve inches [30.5 centimeters] or more of clay-rich soil material suitable for serving as a plant root zone must be placed over the compacted layer. At least six inches [15.2 centimeters] of suitable plant growth material must be placed over the covered landfill and the facility planted with adapted grasses. The total depth of final cover must be three feet [91.4 centimeters] or more. The requirements of this section may be modified by the department if the permit applicant demonstrates that an alternative design will appropriately limit percolation of liquid into the waste. The owners or operators of CCR landfills subject to chapter 33.1-20-08 are excluded from the provisions of this section.

1. If the permit applicant wishes to pursue an alternative cover design, one of the following methods shall be used to demonstrate that the alternative cover design will appropriately limit the amount of percolation that may enter the waste:
 - a. Hydrologic modeling;
 - b. Lysimetry or instrumentation using a field-scale test section;
 - c. Comparison of the soil and climatic conditions of the site with the soil and climatic conditions at a site where the department has previously approved the same alternative cover design; or
 - d. Other method approved by the department.
2. To demonstrate that an alternative cover design will appropriately limit percolation of liquid into the waste, the alternative cover design must be shown to limit the average rate of percolation of liquid into wastes to an equal or lower value than the final cover design described in this section or to an average long-term percolation rate less than 0.2 inches [5.0 millimeters] per year.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-08
DISPOSAL OF COAL COMBUSTION RESIDUALS IN
LANDFILLS AND SURFACE IMPOUNDMENTS

Section

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33.1-20-08-01. Definitions.

The terms used in this chapter have the same meaning as in North Dakota Century Code section 23.1-08-02 and section 33.1-20-01.1-03, except:

1. "Active facility or active electric utilities or independent power producers" means any facility subject to the requirements of this article that is in operation on October 19, 2015. An electric utility or independent power producer is in operation if it is generating electricity that is provided to electric power transmission systems or to electric power distribution systems on or after October 19, 2015. An offsite disposal facility is in operation if it is accepting or managing CCR on or after October 19, 2015.
2. "Active life or in operation" means the period of operation beginning with the initial placement of solid waste in the solid waste management unit and ending at completion of closure activities in accordance with section 33.1-20-08-07.
3. "Active portion" means that part of the solid waste management unit that has received or is receiving solid waste and that has not completed closure in accordance with section 33.1-20-08-07.
4. "CCR landfill" means an area of land or an excavation that receives CCR and which is not a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. For purposes of this article, a CCR landfill also includes sand and gravel pits and quarries that receive CCR, CCR piles, and any practice that does not meet the definition of a beneficial use of CCR.
5. "CCR pile" means any noncontainerized accumulation of solid, nonflowing CCR that is placed on the land. Coal combustion residuals that is beneficially used offsite is not a CCR pile.
6. "CCR surface impoundment" means a natural topographic depression, manmade excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and the unit treats, stores, or disposes of CCR.
7. "CCR surface impoundment height" means the vertical measurement from the downstream toe of the CCR surface impoundment at its lowest point to the lowest elevation of the crest of the CCR surface impoundment.
8. "CCR unit" means a CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit, or a combination of more than one of these units, based on the context of the paragraphs in which it is used. This term includes both new and existing units, unless otherwise specified.
9. "Existing CCR landfill" means a CCR landfill that receives CCR both before and after October 19, 2015, or for which construction commenced prior to October 19, 2015, and

receives CCR on or after October 19, 2015. A CCR landfill has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and a continuous onsite, physical construction program had begun prior to October 19, 2015.

10. "Existing CCR surface impoundment" means a CCR surface impoundment that receives CCR both before and after October 19, 2015, or for which construction commenced prior to October 19, 2015, and receives CCR on or after October 19, 2015. A CCR surface impoundment has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and a continuous onsite, physical construction program had begun prior to October 19, 2015.
11. "Grading" means the placement of CCR only to the extent necessary to create sufficient differences in elevation to support stormwater drainage.
12. "Hazard potential classification" means the possible adverse incremental consequences that result from the release of water or stored contents due to failure of the diked CCR surface impoundment or misoperation of the diked CCR surface impoundment or its appurtenances. The hazardous potential classifications include high-hazard potential CCR surface impoundment, low-hazard potential CCR surface impoundment, and significant-hazard potential CCR surface impoundment, which terms mean:
 - a. "High-hazard potential CCR surface impoundment" means a diked surface impoundment where failure or misoperation will probably cause loss of human life.
 - b. "Low-hazard potential CCR surface impoundment" means a diked surface impoundment where failure or misoperation results in no probable loss of human life and low economic or environmental losses, or both. Losses are principally limited to the surface impoundment owner's property.
 - c. "Significant-hazard potential CCR surface impoundment" means a diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.
13. "Height" means the vertical measurement from the downstream toe of the CCR surface impoundment at its lowest point to the lowest elevation of the crest of the CCR surface impoundment.
14. "Inactive CCR surface impoundment" means a CCR surface impoundment that no longer receives CCR on or after October 19, 2015, and still contains both CCR and liquids on or after October 19, 2015.
15. "In operation" means the same as "active life".
16. "Maximum horizontal acceleration in lithified earth material" means the maximum expected horizontal acceleration at the ground surface as depicted on a seismic hazard map, with a ninety-eight percent or greater probability that the acceleration will not be exceeded in fifty years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.
17. "New CCR landfill" means a CCR landfill or lateral expansion of a CCR landfill that first receives CCR or commences construction after October 19, 2015. A new CCR landfill has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and a continuous onsite, physical construction program had begun after October 19, 2015. Overfills also are considered new CCR landfills.

18. "New CCR surface impoundment" means a CCR surface impoundment or lateral expansion of an existing or new CCR surface impoundment that first receives CCR or commences construction after October 19, 2015. A new CCR surface impoundment has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and a continuous onsite, physical construction program had begun after October 19, 2015.
19. "Nonground water releases" means releases from the CCR unit other than the releases directly to the ground water that are detected through the unit's ground water monitoring system. Examples of nonground water releases include seepage through the embankment, minor ponding of seepage at the toe of the embankment of the CCR unit, seepage at the abutments of the CCR unit, seepage from slopes, ponding at the toe of the unit, a release of fugitive dust and releases of a "catastrophic" nature such as the breaching of an impoundment.
20. "Overfill" means a new CCR landfill constructed over a closed CCR surface impoundment.
21. "Pertinent surrounding areas" means all areas of the CCR surface impoundment or immediately surrounding the CCR surface impoundment that have the potential to affect the structural stability and condition of the CCR surface impoundment, including the toe of the downstream slope, the crest of the embankment, abutments, and unlined spillways.
22. "Poor foundation conditions" mean those areas where features exist which indicate that a natural or human-induced event may result in inadequate foundation support for the structural components of an existing or new CCR unit. For example, failure to maintain static and seismic factors of safety as required in subsection 3 of section 33.1-20-08-04 would cause a poor foundation condition.
23. "Qualified person" means a person or persons trained to recognize specific appearances of structural weakness and other conditions that are disrupting or have the potential to disrupt the operation or safety of the CCR unit by visual observation and, if applicable, to monitor instrumentation.
24. "Retrofit" means to remove all CCR and contaminated soils and sediments from the CCR surface impoundment, and to ensure the unit complies with the requirements in subsection 2 of section 33.1-20-08-04.
25. "Seismic factor of safety" means the factor of safety (safety factor) determined using analysis under earthquake conditions using the peak ground acceleration for a seismic event with a two percent probability of exceedance in fifty years, equivalent to a return period of approximately two thousand five hundred years, based on the United States geological survey seismic hazard maps for seismic events with this return period for the region where the CCR surface impoundment is located.
26. "Seismic impact zone" means an area having a two percent or greater probability that the maximum expected horizontal acceleration, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g in fifty years.
27. "Slope protection" means measures installed on the slopes or pertinent surrounding areas of the CCR unit that protect the slope against wave action, erosion, or adverse effects of rapid drawdown. Slope protection includes grassy vegetation and engineered slope protection measures.

History: Effective July 1, 2020.

General Authority: NDCC 23.1-08-03

Law Implemented: NDCC 23.1-08-04

33.1-20-08-02. Applicability.

1. The requirements of this chapter apply to owners and operators of new and existing landfills and surface impoundments, including any lateral expansions of such units that dispose or otherwise engage in solid waste management of CCR generated from the combustion of coal at electric utilities and independent power producers. Unless otherwise provided in this chapter, these requirements also apply to disposal units located offsite of the electric utilities and independent power producers. This chapter also applies to any practice that does not meet the definition of a beneficial use of CCR.
2. This chapter does not apply to CCR landfills that have ceased receiving CCR prior to October 19, 2015.
3. This chapter does not apply to electric utilities and independent power producers that have ceased operating prior to October 19, 2015.
4. This chapter does not apply to wastes, including fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated at facilities that are not part of an electric utility or independent power producer, such as manufacturing facilities, universities, and hospitals. This chapter also does not apply to fly ash, bottom ash, boiler slag, and flue gas desulfurization materials, generated primarily from the combustion of fuels, including other fossil fuels, other than coal, for the purpose of generating electricity unless the fuel burned consists of more than fifty percent coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal.
5. This chapter does not apply to practices that meet the definition of a beneficial use of CCR.
6. This chapter does not apply to CCR placement at active or abandoned underground or surface coal mines.
7. This chapter does not apply to municipal solid waste landfills that receive CCR.
8. Owners and operators of CCR units that are subject to this chapter are subject to the solid waste management requirements of this article, unless specifically excluded in other chapters.
9. The owner or operator of an existing CCR unit subject to this chapter, which has a permit that is in effect prior to July 1, 2020, shall apply to the department for a modified permit which meets the requirements of this chapter within twenty-four months of July 1, 2020.

History: Effective July 1, 2020.

General Authority: NDCC 23.1-08-03

Law Implemented: NDCC 23.1-08-03, 23.1-08-04

33.1-20-08-03. Location standards.

In addition to the general location standards in section 33.1-20-04.1-01, the following must be met:

1. Placement above the uppermost aquifer. New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must be constructed with a base that is a minimum of five feet [1.52 meters] above the upper limit of the uppermost aquifer or demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the landfill and the uppermost aquifer due to normal fluctuations in ground water elevations, including the seasonal high water table.
 - a. For a new CCR landfill or surface impoundment or any lateral expansion of a CCR unit, the demonstration that the unit meets the minimum requirements for placement above the uppermost aquifer must be included with the application for a new permit or permit

modification. For an existing CCR surface impoundment, the demonstration must be included with the application for a permit modification that meets the requirements of this chapter within twenty-four months of July 1, 2020, as required by subsection 9 of section 33.1-20-08-02.

- b. The demonstration is considered complete when the demonstration is approved by the department and placed in the facility's operating record.
- c. An owner or operator of an existing CCR surface impoundment who fails to make the demonstration shall begin closure as required by subparagraph a of paragraph 1 of subdivision b of subsection 2 of section 33.1-20-08-07.
- d. An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration is prohibited from placing CCR in the CCR unit.

2. Wetlands.

- a. New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located in wetlands unless the owner or operator demonstrates no later than the date specified in subdivision b that the CCR unit meets the following requirements:
 - (1) Where applicable under section 404 of the Clean Water Act or applicable state wetlands laws, a clear and objective rebuttal of the presumption that an alternative to the CCR unit is reasonably available that does not involve wetlands.
 - (2) The construction and operation of the CCR unit will not cause or contribute to any of the following:
 - (a) A violation of any applicable state or federal water quality standard;
 - (b) A violation of any applicable toxic effluent standard or prohibition under section 307 of the Clean Water Act; or
 - (c) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973.
 - (3) The CCR unit will not cause or contribute to a significant degradation of wetlands by addressing all of the following factors:
 - (a) Erosion, stability, and migration potential of native wetland soils, muds, and deposits used to support the CCR unit;
 - (b) Erosion, stability, and migration potential of dredged and fill materials used to support the CCR unit;
 - (c) The volume and chemical nature of the CCR;
 - (d) Impacts on fish, wildlife, and other aquatic resources and their habitat from release of CCR;
 - (e) The potential effects of catastrophic release of CCR to the wetland and the resulting impacts on the environment; and
 - (f) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

- (4) To the extent required under section 404 of the Clean Water Act or applicable state wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands, as defined by acreage and function, by first avoiding impacts to wetlands to the maximum extent reasonable as required by paragraphs 1 through 3 of subdivision a of subsection 2 of section 33.1-20-08-08, then minimizing unavoidable impacts to the maximum extent reasonable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and reasonable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands); and
 - (5) Sufficient information is available to make a reasoned determination with respect to the demonstrations listed in paragraphs 1 through 4.
- b. The owner or operator of the CCR unit shall complete the demonstrations required by subdivision a by the date specified in either paragraph 1 or 2.
 - (1) For an existing CCR surface impoundment, the owner or operator shall include the demonstration with the application for a permit modification that meets the requirements of this chapter within twenty-four months of July 1, 2020, as required by subsection 9 of section 33.1-20-08-02.
 - (2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator shall include the demonstration with the application for a new permit or permit modification.
 - (3) The demonstration is considered complete when the demonstration is approved by the department and placed in the facility's operating record.
 - (4) An owner or operator of an existing CCR surface impoundment who fails to make the demonstration showing compliance with the requirements of subdivision a by the date specified in paragraph 1 is subject to the closure requirements of paragraph 1 of subdivision b of subsection 2 of section 33.1- 20-08-07.
 - (5) For owners or operators of new and lateral expansions of existing CCR units that fail to demonstrate compliance, waste is prohibited from being placed into the CCR unit.

3. Fault areas.

- a. New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located within two hundred feet [60 meters] of the outermost damage zone of a fault that has had displacement in Holocene time unless the owner or operator demonstrates by the dates specified in subdivision c that an alternative setback distance of less than two hundred feet [60 meters] will prevent damage to the structural integrity of the CCR unit.
- b. The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer or a qualified environmental professional stating that the demonstration meets the requirements of subdivision a.
- c. The owner or operator of the CCR unit shall complete the demonstration required by subdivision a by the date specified in either paragraph 1 or 2.
 - (1) For an existing CCR surface impoundment, the owner or operator shall include the demonstration with the application for a permit modification that meets the requirements of this chapter within twenty-four months of July 1, 2020, as required by subsection 9 of section 33.1-20-08-02.

- (2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator shall include the demonstration with the application for a new permit or permit modification.
- (3) The demonstration is considered complete when the demonstration is approved by the department and placed in the facility's operating record.
- (4) An owner or operator of an existing surface impoundment who fails to make the demonstration showing compliance with the requirements of subdivision a by the date specified in paragraph 1 is subject to the closure requirements of paragraph 1 of subdivision b of subsection 2 of section 33.1-20-08-07.
- (5) For owners or operators of new and lateral expansions of existing CCR units that fail to demonstrate compliance, waste is prohibited from being placed into the CCR unit.

4. Seismic impact zones.

- a. New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located in seismic impact zones unless the owner or operator demonstrates by the dates specified in subdivision c that all structural components, including liners, leachate collection and removal systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site.
- b. The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer or a qualified environmental professional stating that the demonstration meets the requirements of subdivision a.
- c. The owner or operator of the CCR unit shall complete the demonstration required by subdivision a by the date specified in either paragraph 1 or 2.
 - (1) For an existing CCR surface impoundment, the owner or operator shall include the demonstration with the application for a permit modification that meets the requirements of this chapter within twenty-four months of July 1, 2020, as required by subsection 9 of section 33.1-20-08-02.
 - (2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator shall include the demonstration with the application for a new permit or permit modification.
 - (3) The demonstration is considered complete when the demonstration is approved by the department and placed in the facility's operating record.
 - (4) An owner or operator of an existing surface impoundment who fails to make the demonstration showing compliance with the requirements of subdivision a of this subsection by the date specified in paragraph 1 is subject to the closure requirements of paragraph 1 of subdivision b of subsection 2 of section 33.1-20-08-07.
 - (5) For owners or operators of new and lateral expansions of existing CCR units that fail to demonstrate compliance, waste is prohibited from being placed into the CCR unit.

5. Unstable areas.

- a. An existing or new CCR landfill, existing or new CCR surface impoundment, or any lateral expansions of an existing CCR unit must not be located in an unstable area unless the owner or operator demonstrates that recognized and generally accepted good engineering practices have been incorporated into the design of the CCR unit to ensure that the integrity of the structural components of the CCR unit will not be disrupted.
- b. The owner or operator shall consider all of the following factors, at a minimum, when determining whether an area is unstable:
 - (1) Onsite or local soil conditions that may result in significant differential settling;
 - (2) Onsite or local geologic or geomorphologic features; and
 - (3) Onsite or local human-made features or events (both surface and subsurface)
- c. The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer or a qualified environmental professional stating that the demonstration meets the requirements of subdivision a.
- d. The owner or operator of the CCR unit shall complete the demonstration required by subdivision a by the date specified in either paragraph 1 or 2.
 - (1) For an existing CCR landfill or surface impoundment, the demonstration must be included with the application for a permit modification that meets the requirements of this chapter within twenty-four months of July 1, 2020, as required by subsection 9 of section 33.1-20-08-02.
 - (2) For a new CCR landfill or surface impoundment or any lateral expansion of a CCR landfill or surface impoundment, the demonstration must be included with the application for a new permit or permit modification.
 - (3) The demonstration is considered complete when the demonstration is approved by the department and placed in the facility's operating record.
 - (4) For owners or operators of an existing CCR surface impoundment or CCR landfill that fails to demonstrate compliance by the date required in paragraph 1, the CCR landfill is subject to the requirements in paragraph 1 of subdivision b of subsection 2 of section 33.1-20-08-07 or paragraph 1 of subdivision d of subsection 2 of section 33.1-20-08-07, respectively.
 - (5) For owners or operators of new CCR units and lateral expansions of existing CCR units that fail to demonstrate compliance, waste is prohibited from being placed into the CCR landfill.

History: Effective July 1, 2020.

General Authority: NDCC 23.1-08-03

Law Implemented: NDCC 23.1-08-03, 23.1-08-04

33.1-20-08-04. Design criteria.

- 1. New CCR landfills and any lateral expansion of a CCR landfill must be designed, constructed, operated, and maintained with the appropriate hydraulic barrier and leachate management system capable of collecting and removing leachate and contaminated surface water within the disposal unit during the operating period and postclosure period.
 - a. Prior to construction of an overfill, the underlying CCR surface impoundment must meet the requirements of subdivision d of subsection 3 of section 33.1-20-08-07.

- b. Prior to construction of the CCR landfill or any lateral expansion of the CCR landfill, the owner or operator shall obtain a certification from a qualified professional engineer and approval by the department that the design of the composite liner (or, if applicable, alternative composite liner) and the leachate collection and removal system meets the requirements of this subsection.
- c. Upon completion of construction of the CCR landfill or any lateral expansion of the CCR landfill, the owner or operator shall obtain a certification from a qualified professional engineer and approval by the department that the composite liner (or, if applicable, alternative composite liner) and the leachate collection and removal system has been constructed in accordance with the requirements of this subsection.
- d. A composite liner is required. The liner must consist of at least two feet [60.9 centimeters] of recompacted clay with a hydraulic conductivity not to exceed 1×10^{-7} centimeters per second overlain with at least a sixty mil flexible membrane liner. The composite liner must be:
 - (1) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients, including static head and external hydrogeologic forces, physical contact with the CCR or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;
 - (2) Constructed of materials that provide appropriate shear resistance of the upper and lower component interface to prevent sliding of the upper component including on slopes;
 - (3) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and
 - (4) Installed to cover all surrounding earth likely to be in contact with the CCR or leachate.
- e. The department may consider an alternative composite liner if all of the requirements of this subdivision are met. A certification must be obtained from a qualified professional engineer stating that:
 - (1) The alternative composite liner consists of two components; the upper component consisting of, at a minimum, a sixty-mil flexible membrane liner, and a lower component, that is not a flexible membrane liner. If the lower component of the alternative liner is compacted soil, the flexible membrane liner must be installed in direct and uniform contact with the compacted soil.
 - (2) The transmissivity through the lower component of the alternative composite liner is no greater than the transmissivity through two feet [60.9 centimeters] of compacted soil with a hydraulic conductivity of 1×10^{-7} centimeters per second.
 - (3) The hydraulic conductivity for the two feet [60.9 centimeters] of compacted soil used in the comparison shall be no greater than 1×10^{-7} centimeters per second.
 - (4) The hydraulic conductivity of any alternative to the two feet [60.9 centimeters] of compacted soil must be determined using recognized and generally accepted good engineering practices.
 - (5) The transmissivity comparison must be made using this equation, which is derived from Darcy's Law for gravity flow through porous media:

$$\frac{Q}{A} = q = k \left(\frac{h}{t} + 1 \right)$$

Where:

Q = flow rate (cubic centimeters/second);

A = surface area of the liner (squared centimeters);

q = flow rate per unit area (cubic centimeters/second/squared centimeter);

k = hydraulic conductivity of the liner (centimeters/second);

h = hydraulic head above the liner (centimeters); and

t = thickness of the liner (centimeters).

- (6) The alternative composite liner must meet the requirements specified in paragraphs 1 through 4 of subdivision d.
 - f. The drainage layer must be designed and operated to minimize clogging during the active life and post-closure care period and have a hydraulic conductivity of 1×10^{-3} centimeters per second or greater throughout. The drainage layer must have a sufficient thickness to provide a transmissivity of 3×10^{-2} centimeters squared per second or greater.
 - g. The liner and leachate removal system must be compatible with the waste and leachate.
 - h. The liner and leachate removal system must maintain its integrity during the operating period and through postclosure period.
 - i. The system must have a collection efficiency of ninety percent or better and must be capable of maintaining a hydraulic head of less than twelve inches [30.5 centimeters] above the liner.
 - j. The liner and leachate removal system in combination with the final cover must achieve a site efficiency of at least ninety-eight and one-half percent or better for collection or rejection of the precipitation that falls on the site.
2. Liner design criteria for CCR surface impoundments.
 - a. For existing CCR surface impoundments:
 - (1) No later than twenty-four months after July 1, 2020, the owner or operator of an existing CCR surface impoundment shall include with the application for a permit modification that meets the requirements of this chapter, as required by subsection 9 of section 33.1-20-08-02, documentation that such CCR unit was constructed with one of the following:
 - (a) A composite liner that meets the requirements of subdivision d of subsection 1;
 - (b) An alternative composite liner that meets the requirements of subdivision e of subsection 1 or is demonstrated, using recognized and generally accepted good engineering practices, to have a total flux rate through the liner equal to or less than the flux rate through a liner that meets the requirements of subdivision d of subsection 1.
 - (2) The hydraulic conductivity of the compacted soil must be determined using recognized and generally accepted good engineering practices.

- (3) An existing CCR surface impoundment is considered to be an existing unlined CCR surface impoundment if either:
 - (a) The owner or operator of the CCR unit determines that it is not constructed with a liner that meets the requirements of paragraph 1; or
 - (b) The owner or operator of the CCR unit fails to document whether the CCR unit was constructed with a liner that meets the requirements of paragraph 1.
 - (4) All existing unlined CCR surface impoundments are subject to the requirements of subdivision a of subsection 2 of section 33.1-20-08-07.
 - (5) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer and approval from the department that an existing CCR unit meets the requirements of this section.
- b. New CCR surface impoundments and lateral expansions of existing and new CCR surface impoundments must be designed, constructed, operated, and maintained with a composite liner that meets the requirements of subdivision d of subsection 1. The department may consider an alternative liner that meets the requirements of subdivision e of subsection 1:
- (1) Any liner specified in this section must be installed to cover all surrounding earth likely to be in contact with CCR. Dikes shall not be constructed on top of the composite liner.
 - (2) The owner or operator shall include certification from a qualified professional engineer that the design of the composite liner or, if applicable, the design of an alternative composite liner complies with the requirements of this section, with the application for a new permit or permit modification.
 - (3) Upon completion, the owner or operator shall obtain certification from a qualified professional engineer that the composite liner or if applicable, the alternative composite liner has been constructed in accordance with the requirements of this section.
3. Structural integrity criteria for existing CCR surface impoundments, new CCR surface impoundments, and lateral expansions of CCR surface impoundments.
- a. The requirements of paragraph 1 in this subdivision apply to all CCR surface impoundments. The requirements in paragraphs 2 through 4 of this subdivision apply to all CCR surface impoundments, except for those CCR surface impoundments that are incised CCR units. If an incised CCR surface impoundment is subsequently modified (e.g., a dike is constructed) such that the CCR unit no longer meets the definition of an incised CCR unit, the CCR unit is subject to the requirements of this section.
- (1) The owner or operator of the CCR unit shall place on or immediately adjacent to the CCR unit a permanent identification marker, at least six feet [1.8 meters] high, showing the permit number of the CCR unit, the name associated with the CCR unit, and the name of the owner or operator of the CCR unit.
 - (2) Periodic hazard potential classification assessments:
 - (a) The owner or operator of the CCR unit shall conduct initial and periodic hazard potential classification assessments of the CCR unit according to the time frames specified in paragraph f. The owner or operator shall document the hazard potential classification of each CCR unit as either a high-hazard

potential CCR surface impoundment, a significant-hazard potential CCR surface impoundment, or a low-hazard potential CCR surface impoundment. The owner or operator also shall document the basis for each hazard potential classification.

- (b) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer stating that the hazard potential classifications specified in this section were conducted in accordance with the requirements of this section.

(3) Emergency action plan (EAP):

- (a) Development of the plan. No later than the time frames specified in paragraph f, the owner or operator of a CCR unit determined to be either a high-hazard potential or significant-hazard potential CCR surface impoundment under periodic hazard potential classification assessments shall prepare and maintain a written EAP. The original EAP and any amendments to the EAP must be approved by the department and placed in the facility's operating record. At a minimum, the EAP must:

- [1] Define the events or circumstances involving the CCR unit that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner;
- [2] Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit;
- [3] Provide contact information of emergency responders;
- [4] Include a map which delineates the downstream area that would be affected in the event of a CCR unit failure and a physical description of the CCR unit; and
- [5] Include provisions for an annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders.

(b) Amendment of the plan:

- [1] The owner or operator of a CCR unit that is required to have a written EAP may amend the written EAP at any time. The owner or operator shall amend the written EAP whenever there is a change in conditions that would substantially affect the EAP in effect.
- [2] The written EAP must be evaluated, at a minimum, every five years to ensure the required information is accurate. As necessary, the EAP must be updated and a revised EAP placed in the facility's operating record.

(c) Changes in hazard potential classification:

- [1] If the owner or operator of a CCR unit determines during a periodic hazard potential assessment that the CCR unit is no longer classified as either a high-hazard potential CCR surface impoundment or a significant-hazard potential CCR surface impoundment, then the owner or operator of the CCR unit is no longer subject to the requirement to prepare and maintain a written EAP beginning on the date the periodic

hazard potential assessment documentation is placed in the facility's operating record.

- [2] If the owner or operator of a CCR unit classified as a low-hazard potential CCR surface impoundment subsequently determines that the CCR unit is properly reclassified as either a high-hazard potential CCR surface impoundment or a significant-hazard potential CCR surface impoundment, then the owner or operator of the CCR unit shall prepare a written EAP for the CCR unit within six months of completing such periodic hazard potential assessment.
- (d) The owner or operator of the CCR unit shall submit the written EAP, and any subsequent amendment of the EAP to the department for approval.
- (e) Activation of the EAP. The EAP must be implemented once events or circumstances involving the CCR unit that represent a safety emergency are detected, including conditions identified during periodic structural stability assessments, annual inspections, and inspections by a qualified person.
- (4) The slopes and pertinent surrounding areas of the CCR unit must be designed, constructed, operated, and maintained with one of the forms of slope protection specified in subparagraph a that meets all of the performance standards of subparagraph b.
 - (a) Slope protection must consist of one of the following:
 - [1] A vegetative cover consisting of grassy vegetation;
 - [2] An engineered cover consisting of a single form or combination of forms of engineered slope protection measures; or
 - [3] A combination of vegetative cover and engineered cover.
 - (b) Any form of cover for slope protection must meet all of the following performance standards:
 - [1] The cover must be installed and maintained on the slopes and pertinent surrounding areas of the CCR unit;
 - [2] The cover must provide protection against surface erosion, wave action, and adverse effects of rapid drawdown;
 - [3] The cover must be maintained to allow for the observation of and access to the slopes and pertinent surrounding areas during routine and emergency events;
 - [4] Woody vegetation must be removed from the slopes or pertinent surrounding areas. Any removal of woody vegetation with a diameter greater than one-half inch [12.7 millimeters] must be directed by a person familiar with the design and operation of the unit and in consideration of the complexities of removal of a tree or a shrubbery, who must ensure the removal does not create a risk of destabilizing the unit or otherwise adversely affect the stability and safety of the CCR unit or personnel undertaking the removal; and

[5] The vegetative height of grassy and woody vegetation must be maintained at a height that will not be detrimental to the native grass cover.

- b. The requirements of subdivisions c through e apply to an owner or operator of a CCR surface impoundment that either:
- (1) Has a height of five feet [1.5 meters] or more and a storage volume of twenty acre-feet [24670 cubic meters] or more; or
 - (2) Has a height of twenty feet [6.1 meters] or more.
- c. No later than in the time frames specified in paragraph f for an existing impoundment, or included with the application for a permit for a new CCR unit or permit modification for lateral expansion of a CCR unit, the owner or operator of the CCR unit shall compile, to the extent feasible, the information specified below:
- (1) The name and address of the owner or operator of the CCR unit, the name associated with the CCR unit, and the permit number.
 - (2) The location of the CCR unit identified on the most recent United States geological survey 7.5-minute or 15-minute topographic quadrangle map, or a topographic map of equivalent scale if a United States geological survey map is not available.
 - (3) A statement of the purpose for which the CCR unit is being used.
 - (4) The name and size in acres of the watershed within which the CCR unit located.
 - (5) A description of the physical and engineering properties of the foundation and abutment materials on which the CCR unit is constructed.
 - (6) A statement of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR unit; the method of site preparation and construction of each zone of the CCR unit; and the approximate dates of construction of each successive stage of construction of the CCR unit.
 - (7) At a scale that details engineering structures and appurtenances relevant to the design, construction, operation, and maintenance of the CCR unit, detailed dimensional drawings of the CCR unit, including a plan view and cross sections of the length and width of the CCR unit, showing all zones, foundation improvements, drainage provisions, spillways, diversion ditches, outlets, instrument locations, and slope protection, in addition to the normal operating pool surface elevation and the maximum pool surface elevation following peak discharge from the inflow design flood, the expected maximum depth of CCR within the CCR surface impoundment, and any identifiable natural or manmade features that could adversely affect operation of the CCR unit due to malfunction or misoperation.
 - (8) A description of the type, purpose, and location of existing instrumentation.
 - (9) Area-capacity curves for the CCR unit.
 - (10) A description of each spillway and diversion design features and capacities and calculations used in their determination.
 - (11) The construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit.

- (12) Any record or knowledge of structural instability of the CCR unit.
- (13) Changes to the history of construction. If there is a significant change to any information required in this subdivision, the owner or operator of the CCR unit shall update the relevant information, notify the department, and place it in the facility's operating record.

d. Periodic structural stability assessments.

- (1) The owner or operator of the CCR unit shall conduct initial and periodic structural stability assessments and document whether the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices for the maximum volume of CCR and CCR wastewater which can be impounded therein. The assessment must, at a minimum, document whether the CCR unit has been designed, constructed, operated, and maintained with:

- (a) Stable foundations and abutments;
- (b) Slope protection consistent with the requirements under paragraph 4 of subdivision a;
- (c) Dikes mechanically compacted to a density sufficient to withstand the range of loading conditions in the CCR unit;
- (d) Vegetated slopes of dikes and surrounding areas must be maintained at a height above the slope of the dike that will not be detrimental to the native grass cover, except for slopes which have an alternate form or forms of slope protection;
- (e) A single spillway or a combination of spillways configured as stated below. The combined capacity of all spillways must be designed, constructed, operated, and maintained to adequately manage flow during and following the peak discharge from the event specified below.

[1] All spillways must be either:

- [a] Of nonerodible construction and designed to carry sustained flows;
or
- [b] Earth- or grass-lined and designed to carry short-term, infrequent flows at nonerosive velocities where sustained flows are not expected.

[2] The combined capacity of all spillways must adequately manage flow during and following the peak discharge from a:

- [a] Probable maximum flood for a high-hazard potential CCR surface impoundment;
- [b] One thousand-year flood for a significant-hazard potential CCR surface impoundment; or
- [c] One hundred-year flood for a low-hazard potential CCR surface impoundment.

- (f) Hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit that maintain structural integrity and are free of

significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris which may negatively affect the operation of the hydraulic structure; and

- (g) For CCR units with downstream slopes which can be inundated by the pool of an adjacent water body, such as a river, stream, or lake, downstream slopes that maintain structural stability during low pool of the adjacent water body or sudden drawdown of the adjacent water body.
 - (2) The periodic structural stability assessment described in this subdivision must identify any structural stability deficiencies associated with the CCR unit in addition to recommending corrective measures. If a deficiency or a release is identified during the periodic assessment, the owner or operator of the CCR unit must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.
 - (3) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment was conducted in accordance with the requirements of this section.
- e. Periodic safety factor assessments.
- (1) The owner or operator shall conduct an initial and periodic safety factor assessments for each CCR unit and document whether the calculated factors of safety for each CCR unit achieve the minimum safety factors specified below for the critical cross section of the embankment. The critical cross section is the cross section anticipated to be the most susceptible of all cross sections to structural failure based on appropriate engineering considerations, including loading conditions. The safety factor assessments must be supported by appropriate engineering calculations.
 - (a) The calculated static factor of safety under the long-term, maximum storage pool loading condition must equal or exceed 1.50.
 - (b) The calculated static factor of safety under the maximum surcharge pool loading condition must equal or exceed 1.40.
 - (c) The calculated seismic factor of safety must equal or exceed 1.00.
 - (d) For dikes constructed of soils that have susceptibility to liquefaction, the calculated liquefaction factor of safety must equal or exceed 1.20.
 - (e) For new CCR surface impoundments and lateral expansions of a CCR impoundment, the calculated static factor of safety under the end-of-construction loading condition must equal or exceed 1.30. The assessment of this loading condition is only required for the initial safety factor assessment and is not required for subsequent assessments.
 - (2) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment specified in this section meets the requirements of this section.
- f. Time frames for periodic assessments.
- (1) Initial assessment. Except as provided in this subdivision, the owner or operator of an existing CCR unit shall complete and include the initial assessments required by

this section with the application for a permit modification that meets the requirements of this chapter within twenty-four months of July 1, 2020, as required by subsection 9 of section 33.1-20-08-02, or for a new CCR unit or lateral expansion of a CCR unit, with the application for a new permit or permit modification. The owner or operator has completed an initial assessment when the assessment has been approved by the department placed in the facility's operating record.

- (2) The owner or operator of an existing CCR surface impoundment may elect to use a previously completed assessment to serve as the initial assessment required by this section, provided that the previously completed assessment:
 - (a) Was completed no earlier than April 17, 2013; and
 - (b) Meets the applicable requirements of this section.
- (3) Frequency for conducting periodic assessments. The owner or operator of the CCR unit shall conduct and complete the assessments required by this section every five years. The date of completing the initial assessment is the basis for establishing the deadline to complete the first subsequent assessment. If the owner or operator elects to use a previously completed assessment in lieu of the initial assessment, the date of the report for the previously completed assessment is the basis for establishing the deadline to complete the first subsequent assessment. The owner or operator may complete any required assessment prior to the required deadline provided the owner or operator places the completed assessment into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent assessments is based on the date of completing the previous assessment. For purposes of this section, the owner or operator has completed an assessment when the relevant assessment has been approved by the department and placed in the facility's operating record.
- (4) Failure to document minimum safety factors during the initial assessment for new CCR surface impoundments or lateral expansions of a CCR surface impoundment. Until an owner or operator of a CCR unit documents that the calculated factors of safety achieve the minimum safety factors specified in paragraph 1 of subdivision e, the owner or operator is prohibited from placing CCR in such unit.
- (5) Closure of the CCR unit. An owner or operator of a CCR unit who either fails to complete a timely safety factor assessment or fails to demonstrate minimum safety factors as required by this section is subject to the closure requirements of subdivision b of subsection 2 of section 33.1-20-08-07.

History: Effective July 1, 2020.

General Authority: NDCC 23.1-08-03

Law Implemented: NDCC 23.1-08-03, 23.1-08-04

33.1-20-08-05. Operating criteria.

1. Air criteria.

- a. The owner or operator of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit shall adopt measures that will effectively minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from CCR units, roads, and other CCR management and material handling activities.
- b. Coal combustion residuals fugitive dust control plan. The owner or operator of the CCR unit shall prepare and operate in accordance with a CCR fugitive dust control plan as

specified in paragraphs 1 through 6. This requirement applies in addition to, not in place of, any applicable standards under the Occupational Safety and Health Act.

- (1) The CCR fugitive dust control plan shall identify and describe the CCR fugitive dust control measures the owner or operator will use to minimize CCR from becoming airborne at the facility. The owner or operator shall select, and include in the CCR fugitive dust control plan, the CCR fugitive dust control measures that are most appropriate for site conditions, along with an explanation of how the measures selected are applicable and appropriate for site conditions. Examples of control measures that may be appropriate include: Locating CCR inside an enclosure or partial enclosure; operating a water spray or fogging system; reducing fall distances at material drop points; using wind barriers, compaction, or vegetative covers; establishing and enforcing reduced vehicle speed limits; paving and sweeping roads; covering trucks transporting CCR; reducing or halting operations during high wind events; or applying a daily cover.
 - (2) If the owner or operator operates a CCR landfill or any lateral expansion of a CCR landfill, the CCR fugitive dust control plan shall include procedures to emplace CCR as conditioned CCR. Conditioned CCR means wetting CCR with water to a moisture content that will prevent wind dispersal but will not result in free liquids. In lieu of water, CCR conditioning may be accomplished with an appropriate chemical dust suppression agent.
 - (3) The CCR fugitive dust control plan must include procedures to log citizen complaints received by the owner or operator involving CCR fugitive dust events at the facility.
 - (4) The CCR fugitive dust control plan must include a description of the procedures the owner or operator will follow to periodically assess the effectiveness of the control plan.
 - (5) The owner or operator of an existing CCR unit shall include an initial CCR fugitive dust control plan for the facility with the application for a permit modification that meets the requirements of this chapter within twenty-four months of July 1, 2020, as required by subsection 9 of section 33.1-20-08-02. For new CCR units or lateral expansions of CCR units, the fugitive dust control plan must be included with the application for a new permit or permit modification. The owner or operator has completed the initial CCR fugitive dust control plan when the plan has been approved by the department and placed in the facility's operating record.
 - (6) Amendment of the plan. The owner or operator of a CCR unit subject to the requirements of this section may amend the written CCR fugitive dust control plan at any time with approval by the department, provided the revised plan is placed in the facility's operating record. The owner or operator shall amend the written plan whenever there is a change in conditions that would substantially affect the written plan in effect, such as the construction and operation of a new CCR unit.
- c. Annual CCR fugitive dust control report. The owner or operator of a CCR unit shall prepare an annual CCR fugitive dust control report that includes a description of the actions taken by the owner or operator to control CCR fugitive dust, a record of all citizen complaints, and a summary of any corrective measures taken. The annual CCR fugitive dust control report shall be included with the facility's annual report required by subsection 4 of section 33.1-20-04.1-04. For purposes of this subdivision, the owner or operator has completed the annual CCR fugitive dust control report when the annual report has been submitted to the department and placed in the facility's operating record.

2. Run-on and runoff controls for CCR landfills.

- a. The owner or operator of an existing or new CCR landfill or any lateral expansion of a CCR landfill shall design, construct, operate, and maintain:
 - (1) A run-on control system to prevent flow onto the active portion of the CCR unit during the peak discharge from a twenty-four-hour, twenty-five-year storm; and
 - (2) A run-off control system from the active portion of the CCR unit to collect and control at least the water volume resulting from a twenty-four-hour, twenty-five-year storm.
- b. Run-off from the active portion of the CCR unit must be handled in accordance with the surface water requirements in chapters 33.1-16-01 and 33.1-16-02.1.
- c. Run-on and run-off control system plan:
 - (1) Content of the plan. The owner or operator shall prepare initial and periodic run-on and run-off control system plans for the CCR unit according to the time frames specified in this subsection. These plans must document how the run-on and run-off control systems have been designed and constructed to meet the applicable requirements of this subsection. Each plan must be supported by appropriate engineering calculations. The owner or operator has completed the initial run-on and run-off control system plan when the plan has been approved by the department and placed in the facility's operating record.
 - (2) Amendment of the plan. The owner or operator may amend the written run-on and run-off control system plan at any time provided the revised plan is placed in the facility's operating record. The owner or operator shall amend the written run-on and run-off control system plan whenever there is a change in conditions that would substantially affect the written plan in effect.
 - (3) Time frames for preparing the initial plan.
 - (a) Existing CCR landfills. The owner or operator of the CCR unit shall include the initial run-on and run-off control system plan with the application for a permit modification that meets the requirements of this chapter within twenty-four months of July 1, 2020, as required by subsection 9 of section 33.1-20-08-02.
 - (b) New CCR landfills and any lateral expansion of a CCR landfill. The owner or operator shall include the initial run-on and run-off control system plan with the application for a new permit or permit modification.
 - (4) Frequency for revising the plan. The owner or operator of the CCR unit shall prepare periodic run-on and run-off control system plans required by paragraph 1 every five years. The date of completing the initial plan is the basis for establishing the deadline to complete the first subsequent plan. The owner or operator may complete any required plan prior to the required deadline provided the owner or operator places the completed plan into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing a subsequent plan is based on the date of completing the previous plan. The owner or operator has completed a periodic run-on and run-off control system plan when the plan has been approved by the department and placed in the facility's operating record.

3. Hydrologic and hydraulic capacity requirements for CCR surface impoundments.

- a. The owner or operator of an existing or new CCR surface impoundment or any lateral expansion of a CCR surface impoundment shall design, construct, operate, and maintain an inflow design flood control system as specified in paragraphs 1 and 2.
 - (1) The inflow design flood control system must adequately manage flow into the CCR unit during and following the peak discharge of the inflow design flood specified in paragraph 3.
 - (2) The inflow design flood control system must adequately manage flow from the CCR unit to collect and control the peak discharge resulting from the inflow design flood specified in paragraph 3.
 - (3) The inflow design flood is:
 - (a) For a high-hazard potential CCR surface impoundment, as determined under subdivision a of subsection 3 of section 33.1-20-08-04, the probable maximum flood;
 - (b) For a significant-hazard potential CCR surface impoundment, as determined under subdivision a of subsection 3 of section 33.1-20-08-04, the one thousand-year flood;
 - (c) For a low-hazard potential CCR surface impoundment, as determined under subdivision a of subsection 3 of section 33.1-20-08-04, the one hundred-year flood; or
 - (d) For an incised CCR surface impoundment, the twenty-five-year flood.
- b. Discharge from the CCR unit must be handled in accordance with the surface water requirements under chapters 33.1-16-01 and 33.1-16-02.1.
- c. Inflow design flood control system plan:
 - (1) Content of the plan. The owner or operator shall prepare initial and periodic inflow design flood control system plans for the CCR unit according to the time frames specified in this subdivision. These plans must document how the inflow design flood control system has been designed and constructed to meet the requirements of this section. Each plan must be supported by appropriate engineering calculations. The owner or operator of the CCR unit has completed the inflow design flood control system plan when the plan has been approved by the department and placed in the facility's operating record.
 - (2) Amendment of the plan. The owner or operator of the CCR unit may amend the written inflow design flood control system plan at any time provided the revised plan is approved by the department and placed in the facility's operating record. The owner or operator must amend the written inflow design flood control system plan whenever there is a change in conditions that would substantially affect the written plan in effect.
 - (3) Time frames for preparing the initial plan:
 - (a) Existing CCR surface impoundments. The owner or operator of the CCR unit shall include the initial inflow design flood control system plan with the application for a permit modification that meets the requirements of this chapter within twenty-four months of July 1, 2020, as required by subsection 9 of section 33.1-20-08-02.

- (b) New CCR surface impoundments and any lateral expansion of a CCR surface impoundment. The owner or operator must include the initial inflow design flood control system plan with the application for a new permit or permit modification.
 - (4) Frequency for revising the plan. The owner or operator shall prepare periodic inflow design flood control system plans every five years. The date of completing the initial plan is the basis for establishing the deadline to complete the first periodic plan. The owner or operator may complete any required plan prior to the required deadline provided the owner or operator places the completed plan into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing a subsequent plan is based on the date of completing the previous plan. For purposes of this paragraph, the owner or operator has completed an inflow design flood control system plan when the plan has been approved by the department and placed in the facility's operating record.
4. Inspection requirements for CCR surface impoundments.
- a. Inspections by a qualified person.
 - (1) All CCR surface impoundments and any lateral expansion of a CCR surface impoundment must be examined by a qualified person as follows:
 - (a) Inspect at least once each calendar week for any appearances of actual or potential structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit;
 - (b) Inspect at least once each calendar week the discharge of all outlets of hydraulic structures which pass underneath the base of the surface impoundment or through the dike of the CCR unit for abnormal discoloration, flow, or discharge of debris or sediment; and
 - (c) Monitor at least once each calendar month all CCR unit instrumentation.
 - (d) The results of the inspection by a qualified person must be recorded in the facility's operating record.
 - (2) Time frames for inspections by a qualified person.
 - (a) Existing CCR surface impoundments. The owner or operator of the CCR unit shall initiate the inspections by a qualified person no later than one week after July 1, 2020, for weekly inspections and one month after July 1, 2020, for monthly inspections.
 - (b) New CCR surface impoundments and any lateral expansion of a CCR surface impoundment. The owner or operator of the CCR unit shall initiate the inspections by a qualified person upon initial receipt of CCR by the CCR unit.
 - b. Annual inspections by a qualified professional engineer.
 - (1) If the existing or new CCR surface impoundment or any lateral expansion of the CCR surface impoundment is subject to the periodic structural stability assessment requirements under subdivision d subsection 3 of section 33.1- 20-08-04, the CCR unit must additionally be inspected on a periodic basis by a qualified professional engineer to ensure the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices. The inspection, at a minimum, must include:

- (a) A review of available information regarding the status and condition of the CCR unit, including files available in the operating record (e.g., CCR unit design and construction information, previous periodic structural stability assessments, the results of inspections by a qualified person, and results of previous annual inspections);
 - (b) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit and appurtenant structures; and
 - (c) A visual inspection of any hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit for structural integrity and continued safe and reliable operation.
- (2) Inspection report. The qualified professional engineer shall prepare a report following each inspection that addresses:
 - (a) Any changes in geometry of the impounding structure since the previous annual inspection;
 - (b) The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection;
 - (c) The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection;
 - (d) The storage capacity of the impounding structure at the time of the inspection;
 - (e) The approximate volume of the impounded water and CCR at the time of the inspection;
 - (f) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures; and
 - (g) Any other changes which may have affected the stability or operation of the impounding structure since the previous annual inspection.
- (3) Time frames for conducting the initial inspection.
 - (a) Existing CCR surface impoundments. The owner or operator of the CCR unit shall complete the initial inspection by a qualified professional engineer no later than one year after July 1, 2020.
 - (b) New CCR surface impoundments and any lateral expansion of a CCR surface impoundment. The owner or operator of the CCR unit shall complete the initial annual inspection by a qualified professional engineer no later than fourteen months following the date of initial receipt of CCR in the CCR unit.
- (4) Frequency of inspections.
 - (a) Except as provided for in subparagraph b, the owner or operator of the CCR unit shall conduct the inspections required section on an annual basis. The date of completing the initial inspection report is the basis for establishing the deadline to complete the first subsequent inspection. Any required inspection may be conducted prior to the required deadline provided the owner or operator places the completed inspection report into the facility's operating

record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of this paragraph, the owner or operator has completed an inspection when the inspection report has been submitted to the department and placed in the facility's operating record.

- (b) In any calendar year in which both the periodic inspection by a qualified professional engineer and the quinquennial (occurring every five years) structural stability assessment by a qualified professional engineer required by subdivision d of subsection 3 of section 33.1-20-08-04 are required to be completed, the annual inspection is not required, provided the structural stability assessment is completed during the calendar year. In the year following the quinquennial structural stability assessment, the deadline for completing the next annual inspection is one year from the date of completing the quinquennial structural stability assessment.

- (5) If a deficiency or release is identified during an inspection, the owner or operator shall notify the department and remedy the deficiency or release in accordance with applicable requirements in subsections 6 through 9 of section 33.1-20-08-06.

5. Inspection requirements for CCR landfills.

a. Inspections by a qualified person.

- (1) All CCR landfills and any lateral expansion of a CCR landfill must be examined by a qualified person as follows:

- (a) Inspect weekly for any appearances of actual or potential structural weakness and other conditions that are disrupting or have the potential to disrupt the operation or safety of the CCR unit; and
- (b) The results of the inspection by a qualified person must be recorded in the facility's operating record.

- (2) Time frames for inspections by a qualified person.

- (a) Existing CCR landfills. The owner or operator of the CCR unit shall initiate the inspections by a qualified person no later than one week after July 1, 2020.
- (b) New CCR landfills and any lateral expansion of a CCR landfill. The owner or operator of the CCR unit shall initiate the inspections by a qualified person upon initial receipt of CCR by the CCR unit.

b. Annual inspections by a qualified professional engineer.

- (1) Existing and new CCR landfills and any lateral expansion of a CCR landfill must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices. The inspection must, at a minimum, include:

- (a) A review of available information regarding the status and condition of the CCR unit, including files available in the operating record (e.g., the results of inspections by a qualified person, and results of previous annual inspections); and

- (b) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.
- (2) Inspection report. The qualified professional engineer shall prepare a report following each inspection that addresses the following:
 - (a) Any changes in geometry of the structure since the previous annual inspection;
 - (b) The approximate volume of CCR contained in the unit at the time of the inspection;
 - (c) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and
 - (d) Any other changes which may have affected the stability or operation of the CCR unit since the previous annual inspection.
- (3) Time frames for conducting the initial inspection.
 - (a) Existing CCR landfills. The owner or operator of the CCR unit shall complete the initial inspection by a qualified professional engineer no later than one year after July 1, 2020.
 - (b) New CCR landfills and any lateral expansion of a CCR landfill. The owner or operator of the CCR unit shall complete the initial annual inspection by a qualified professional engineer no later than fourteen months following the date of initial receipt of CCR in the CCR unit.
- (4) Frequency of inspections. The owner or operator of the CCR unit shall conduct the inspection required by this subdivision on an annual basis. The date of completing the initial inspection report is the basis for establishing the deadline to complete the first subsequent inspection. Any required inspection may be conducted prior to the required deadline provided the owner or operator places the completed inspection report into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of this paragraph, the owner or operator has completed an inspection when the inspection report has been submitted to the department and placed in the facility's operating record.
- (5) If a deficiency or release is identified during an inspection, the owner or operator shall notify the department and remedy the deficiency or release in accordance with applicable requirements in subsections 6 through 9 of section 33.1-20-08-06.

History: Effective July 1, 2020.

General Authority: NDCC 23.1-08-03

Law Implemented: NDCC 23.1-08-03, 23.1-08-04

33.1-20-08-06. Ground water monitoring and corrective action.

- 1. Applicability.
 - a. Existing CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the ground water monitoring and corrective action requirements of this section, except as provided in subdivision f.
 - b. Initial time frames.

- (1) Existing CCR landfills and existing CCR surface impoundments. The owner or operator of the CCR unit shall include with the permit modification application required by subsection 9 of section 33.1-20-08-02, a ground water monitoring plan showing compliance with the following ground water monitoring requirements:
 - (a) Install the ground water monitoring system as required by subsection 2;
 - (b) Develop the ground water sampling and analysis program to include selection of the statistical procedures to be used for evaluating ground water monitoring data as required by subsection 3;
 - (c) Initiate the detection monitoring program to include obtaining a minimum of eight independent samples for each background and downgradient well as required by subsection 4; and
 - (d) Begin evaluating the ground water monitoring data for statistically significant increases over background levels for the constituents listed in appendix I of this chapter as required by subsection 4.
 - (2) New CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units. The owner or operator shall include a ground water monitoring plan with the application for a new permit or permit modification to show compliance with the ground water monitoring requirements specified in subparagraphs a and b of paragraph 1 prior to initial receipt of CCR by the CCR unit. In addition, the owner or operator of the CCR unit shall initiate the detection monitoring program to include obtaining a minimum of eight independent samples for each background well as required by subsection 4.
- c. Once a ground water monitoring system and ground water monitoring program has been established at the CCR unit as required by this section, the owner or operator shall conduct ground water monitoring and, if necessary, corrective action throughout the active life and postclosure care period of the CCR unit.
 - d. In the event of a release from a CCR unit, the owner or operator immediately shall take all necessary measures to control the source of the release so as to reduce or eliminate, to the maximum extent feasible, further releases of contaminants into the environment. The owner or operator of the CCR unit shall comply with all applicable requirements in subsections 6 through 8, or, if eligible, must comply with the requirements in subsection 9.
 - e. Annual ground water monitoring and corrective action report. For existing CCR landfills and existing CCR surface impoundments, no later than January thirty-first of the year following July 1, 2020, and January thirty-first of each year thereafter, the owner or operator must prepare an annual ground water monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual ground water monitoring and corrective action report no later than January thirty-first of the year following the calendar year a ground water monitoring system has been established, and January thirty-first of each year thereafter. For the preceding calendar year, the annual report must document the status of the ground water monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record. The annual report must be submitted to the department for approval and placed on the facility's publicly accessible internet site by March first of each year. At a minimum, the annual

ground water monitoring and corrective action report must contain the following information, to the extent available:

- (1) A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the ground water monitoring program for the CCR unit;
 - (2) Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;
 - (3) In addition to all the monitoring data obtained under this section, a summary including the number of ground water samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;
 - (4) A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituents detected at a statistically significant increase over background levels); and
 - (5) Other information required to be included in the annual report as specified in this section.
- f. Suspension of ground water monitoring requirements.
- (1) The department may suspend the ground water monitoring requirements of this section for a CCR unit for up to ten years if the owner or operator provides written documentation that there is no potential for migration of the constituents listed in appendices I and II to this chapter from that CCR unit to the uppermost aquifer during the active life of the CCR unit and the postclosure care period. This demonstration must be certified by a qualified professional engineer and approved by the department, and must be based upon:
 - (a) Site-specific field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport, including at a minimum, the information necessary to evaluate or interpret the effects of the following properties or processes on contaminant fate and transport:
 - [1] Aquifer characteristics, including hydraulic conductivity, hydraulic gradient, effective porosity, aquifer thickness, degree of saturation, stratigraphy, degree of fracturing and secondary porosity of soils and bedrock, aquifer heterogeneity, ground water discharge, and ground water recharge areas;
 - [2] Waste characteristics, including quantity, type, and origin;
 - [3] Climatic conditions, including annual precipitation, leachate generation estimates, and effects on leachate quality;
 - [4] Leachate characteristics, including leachate composition, solubility, density, the presence of immiscible constituents, Eh, and pH; and
 - [5] Engineered controls, including liners, cover systems, and aquifer controls (e.g., lowering the water table). These must be evaluated under design and failure conditions to estimate their long-term residual performance.

- (b) Contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and the environment.
- (2) The owner or operator of the CCR unit may secure an additional ten years for the suspension of the ground water monitoring requirements provided the owner or operator provides written documentation that there continues to be no potential for migration. The documentation must be supported by, at a minimum, by the same information required for the initial monitoring suspension and must be certified by a qualified professional engineer and approved by the department. The owner or operator shall submit the documentation of their re-demonstration for the department's review and approval of their extension one year before their ground water monitoring suspension is due to expire. If the existing ground water monitoring extension expires, the owner or operator shall begin ground water detection monitoring according to this section within ninety days. The owner or operator may obtain additional ten-year ground water monitoring suspensions provided the owner or operator continues to make the written demonstration. The owner or operator shall place each completed demonstration, if more than one ten-year suspension period is sought, in the facility's operating record.

2. Ground water monitoring systems.

- a. Performance standard. The owner or operator of a CCR unit shall install a ground water monitoring system that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield ground water samples from the uppermost aquifer that:
 - (1) Accurately represent the quality of background ground water that has not been affected by leakage from a CCR unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the CCR management area where:
 - (a) Hydrogeologic conditions do not allow the owner or operator of the CCR unit to determine what wells are hydraulically upgradient; or
 - (b) Sampling at other wells will provide an indication of background ground water quality that is as representative or more representative than that provided by the upgradient wells; and
 - (2) Accurately represent the quality of ground water passing the waste boundary of the CCR unit. The downgradient monitoring system must be installed at the waste boundary that ensures detection of ground water contamination in the uppermost aquifer. All potential contaminant pathways must be monitored.
- b. The number, spacing, and depths of monitoring systems shall be determined based upon site-specific technical information that must include thorough characterization of:
 - (1) Aquifer thickness, ground water flow rate, ground water flow direction including seasonal and temporal fluctuations in ground water flow; and
 - (2) Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer, including thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities, and effective porosities.
- c. The ground water monitoring system must include the minimum number of monitoring wells necessary to meet the performance standards specified in paragraph a, based on

the site-specific information specified in paragraph b. The ground water monitoring system must contain:

- (1) A minimum of one upgradient and three downgradient monitoring wells; and
 - (2) Additional monitoring wells as necessary to accurately represent the quality of background ground water that has not been affected by leakage from the CCR unit and the quality of ground water passing the waste boundary of the CCR unit.
- d. The owner or operator of multiple CCR units may install a multiunit ground water monitoring system instead of separate ground water monitoring systems for each CCR unit. The multiunit ground water monitoring system must be equally as capable of detecting monitored constituents at the waste boundary of the CCR unit as the individual ground water monitoring system for each CCR unit based on the following factors:
- (1) Number, spacing, and orientation of each CCR unit;
 - (2) Hydrogeologic setting;
 - (3) Site history; and
 - (4) Engineering design of the CCR unit.
- e. Monitoring wells must be cased in a manner that maintains the integrity of the monitoring well borehole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of ground water samples. The annular space (i.e., the space between the borehole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the ground water.
- (1) The owner or operator of the CCR unit shall document and include in the ground water monitoring plan and the operating record the design, installation, development, and decommissioning of any monitoring wells; piezometers; and other measurement, sampling, and analytical devices.
 - (2) The monitoring wells; piezometers; and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to the design specifications throughout the life of the monitoring program.
- f. The owner or operator shall provide documentation in the ground water monitoring plan that the ground water monitoring system has been designed and constructed to meet the requirements of this section. If the ground water monitoring system includes the minimum number of monitoring wells specified in this subsection, the ground water monitoring plan must document the basis for supporting this determination. Any proposed changes to the ground water monitoring plan must be submitted to, and approved by, the department.
3. Ground water sampling and analysis requirements.
- a. The ground water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of ground water quality at the background and downgradient wells. The owner or operator of the CCR unit must develop a sampling and analysis program that includes procedures and techniques for:
- (1) Sample collection;
 - (2) Sample preservation and shipment;
 - (3) Analytical procedures;

- (4) Chain of custody control; and
 - (5) Quality assurance and quality control.
- b. The ground water monitoring program must include sampling and analytical methods that are appropriate for ground water sampling and that accurately measure hazardous constituents and other monitoring parameters in ground water samples. For purposes of this section, the term constituent refers to both hazardous constituents and other monitoring parameters listed in either appendix I or II of this chapter.
 - c. Ground water elevations must be measured in each well immediately prior to purging, each time ground water is sampled. The owner or operator of the CCR unit shall determine the rate and direction of ground water flow each time ground water is sampled. Ground water elevations in wells which monitor the same CCR management area must be measured within a period of time short enough to avoid temporal variations in ground water flow which could preclude accurate determination of ground water flow rate and direction.
 - d. The owner or operator of the CCR unit shall establish background ground water quality in hydraulically upgradient or background wells for each of the constituents required in the particular ground water monitoring program that applies to the CCR unit as determined under subsections 4 or 5. Background ground water quality may be established at wells that are not located hydraulically upgradient from the CCR unit if it meets the requirements of paragraph 1 of subdivision a of subsection 2.
 - e. The number of samples collected when conducting detection monitoring and assessment monitoring, for both downgradient and background wells, must be consistent with the statistical procedures chosen under subdivision f and the performance standards under subdivision g of this subsection. The sampling procedures must be those specified under subsection 4 for detection monitoring, subsection 5 for assessment monitoring, and subsection 6 for corrective action monitoring.
 - f. The owner or operator of the CCR unit shall select one of the statistical methods specified in paragraphs 1 through 5 to be used in evaluating ground water monitoring data for each specified constituent. The statistical test chosen must be conducted separately for each constituent in each monitoring well.
 - (1) A parametric analysis of variance followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.
 - (2) An analysis of variance based on ranks followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.
 - (3) A tolerance or prediction interval procedure, in which an interval for each constituent is established from the distribution of the background data and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.
 - (4) A control chart approach that gives control limits for each constituent.
 - (5) Another statistical test method that meets the performance standards of subdivision g.

- (6) The owner or operator of the CCR unit shall include documentation in the ground water monitoring plan showing that the selected statistical method is appropriate for evaluating the ground water monitoring data for the CCR management area. The documentation must include a narrative description of the statistical method selected to evaluate the ground water monitoring data.
- g. Any statistical method chosen must comply with the following performance standards, as appropriate, based on the statistical test method used:
- (1) The statistical method used to evaluate ground water monitoring data must be appropriate for the distribution of constituents. Normal distributions of data values may use parametric methods. Nonnormal distributions must use nonparametric methods. If the distribution of the constituents is shown by the owner or operator of the CCR unit to be inappropriate for a normal theory test, then the data must be transformed or a distribution-free (nonparametric) theory test must be used. If the distributions for the constituents differ, more than one statistical method may be needed.
 - (2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a ground water protection standard, the test must be done at a type I error level no less than 0.01 for each testing period. If a multiple comparison procedure is used, the type I experiment wise error rate for each testing period must be no less than 0.05; however, the type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.
 - (3) If a control chart approach is used to evaluate ground water monitoring data, the specific type of control chart and its associated parameter values must be such that this approach is at least as effective as any other approach in this section for evaluating ground water data. The parameter values must be determined after considering the number of samples in the background database, the data distribution, and the range of the concentration values for each constituent of concern.
 - (4) If a tolerance interval or a predictional interval is used to evaluate ground water monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, must be such that this approach is at least as effective as any other approach in this section for evaluating ground water data. These parameters must be determined after considering the number of samples in the background database, the data distribution, and the range of the concentration values for each constituent of concern.
 - (5) The statistical method must account for data below the limit of detection with one or more statistical procedures that shall be at least as effective as any other approach in this section for evaluating ground water data. Any practical quantization limit that is used in the statistical method must be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.
 - (6) If necessary, the statistical method must include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.
- h. The owner or operator of the CCR unit shall determine if there is a statistically significant increase over background values for each constituent required in the particular ground water monitoring program that applies to the CCR unit.

- (1) In determining whether a statistically significant increase has occurred, the owner or operator shall compare the ground water quality of each constituent at each downgradient monitoring well to the background value of that constituent, according to the statistical procedures and performance standards specified under subdivisions f and g.
 - (2) Within ninety days after completing sampling and analysis, the owner or operator shall determine whether there has been a statistically significant increase over background for any constituent at each monitoring well.
- i. The owner or operator must measure "total recoverable metals" concentrations in measuring ground water quality. Measurement of total recoverable metals captures both the particulate fraction and dissolved fraction of metals in natural waters. ground water samples may not be field-filtered prior to analysis.

4. Detection monitoring program.

- a. The owner or operator of a CCR unit shall conduct detection monitoring at all ground water monitoring wells consistent with this subsection. At a minimum, a detection monitoring program must include ground water monitoring for all constituents listed in appendix I to this chapter.
- b. Except as provided in subdivision d, the monitoring frequency for the constituents listed in appendix I to this chapter must be at least semiannual during the active life of the CCR unit and the postclosure period. For existing CCR landfills and existing CCR surface impoundments, a minimum of eight independent samples from each background and downgradient well must be collected and analyzed for the constituents listed in appendices I and II to this chapter no later than six months after July 1, 2020. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, a minimum of eight independent samples for each background well must be collected and analyzed for the constituents listed in appendices I and II to this chapter during the first six months of sampling, if not already completed.
- c. The number of samples collected and analyzed for each background well and downgradient well during subsequent semiannual sampling events must be consistent with subdivision e of subsection 3 and must account for any unique characteristics of the site, but must be at least one sample from each background and downgradient well.
- d. The owner or operator of a CCR unit may demonstrate the need for an alternative monitoring frequency for repeated sampling and analysis for constituents listed in appendix I to this chapter during the active life and the postclosure care period based on the availability of ground water. If there is not adequate ground water flow to sample wells semiannually, the alternative frequency shall be no less than annual. The need to vary monitoring frequency shall be evaluated on a site-specific basis and approved by the department. The demonstration must be supported by:
 - (1) Information documenting that the need for less frequent sampling. The alternative frequency must be based on consideration of the following factors:
 - (a) Lithology of the aquifer and unsaturated zone;
 - (b) Hydraulic conductivity of the aquifer and unsaturated zone; and
 - (c) Ground water flow rates.

- (2) Information documenting that the alternative frequency will be no less effective in ensuring that any leakage from the CCR unit will be discovered within a time frame that will not materially delay establishment of an assessment monitoring program.
 - (3) The owner or operator must obtain approval by the department for an alternative ground water sampling and analysis frequency. The owner or operator shall include the demonstration providing the basis for the alternative monitoring frequency in the annual ground water monitoring and corrective action report required by this section.
- e. If the owner or operator of the CCR unit determines that there is a statistically significant increase over background levels for one or more of the constituents listed in appendix I to this chapter at any monitoring well at the waste boundary the owner or operator shall:
 - (1) Except as provided for in paragraph 2, within ninety days of detecting a statistically significant increase over background levels for any constituent, notify the department and establish an assessment monitoring program meeting the requirements of subsection 5.
 - (2) The owner or operator may demonstrate that a source other than the CCR unit caused the statistically significant increase over background levels for a constituent or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground water quality. The owner or operator shall complete the written demonstration within ninety days of detecting a statistically significant increase over background levels. If a successful demonstration is completed within the ninety-day period, the owner or operator of the CCR unit shall continue with a detection monitoring program under this section, with approval by the department. If a successful demonstration is not completed within the ninety-day period, the owner or operator of the CCR unit shall initiate an assessment monitoring program as required under subsection 5. The owner or operator also shall include the demonstration in the annual ground water monitoring and corrective action report.
 - (3) The owner or operator of a CCR unit shall prepare a notification stating that an assessment monitoring program has been established. The owner or operator has completed the notification when the notification is submitted to the department and placed in the facility's operating record.

5. Assessment monitoring program.

- a. Assessment monitoring is required whenever a statistically significant increase over background levels has been detected for one or more of the constituents listed in appendix I to this chapter.
- b. Within ninety days of triggering an assessment monitoring program, and annually thereafter, the owner or operator of the CCR unit shall sample and analyze the ground water for all constituents listed in appendix II to this chapter. The number of samples collected and analyzed for each well during each sampling event must be consistent with subdivision e of subsection 3, and must account for any unique characteristics of the site, but must be at least one sample from each well.
- c. The owner or operator of a CCR unit may demonstrate the need for an alternative monitoring frequency for repeated sampling and analysis for constituents listed in appendix II to this chapter during the active life and the postclosure care period based on the availability of ground water. If there is not adequate ground water flow to sample wells semiannually, the alternative frequency shall be no less than annual. The need to

vary monitoring frequency must be evaluated on a site-specific basis. The demonstration must be supported by:

- (1) Information documenting the need for less frequent sampling. The alternative frequency must be based on consideration of the following factors:
 - (a) Lithology of the aquifer and unsaturated zone;
 - (b) Hydraulic conductivity of the aquifer and unsaturated zone; and
 - (c) Ground water flow rates.
 - (2) Information documenting that the alternative frequency will be no less effective in ensuring that any leakage from the CCR unit will be discovered within a time frame that will not materially delay the initiation of any necessary remediation measures.
 - (3) The owner or operator shall obtain approval by the department for an alternative ground water sampling and analysis frequency. The owner or operator shall include the demonstration providing the basis for the alternative monitoring frequency in the annual ground water monitoring and corrective action report required by this section.
- d. After obtaining the results from the initial and subsequent sampling events required in subdivision b, the owner or operator must:
- (1) Within ninety days of obtaining the results, and on at least a semiannual basis thereafter, resample all wells in the monitoring system, conduct analyses for all parameters in appendices I and II to this chapter that are detected in response to subdivision b, and record their concentrations in the facility operating record. The number of samples collected and analyzed for each background well and downgradient well during subsequent semiannual sampling events must be consistent with subdivision e of subsection 3, and must account for any unique characteristics of the site, but must be at least one sample from each background and downgradient well;
 - (2) Establish ground water protection standards for all constituents detected pursuant to subdivision b or d. The ground water protection standards must be established in accordance with subdivision h of this subsection; and
 - (3) Include the recorded concentrations required by the assessment monitoring program, identify the background concentrations established under the detection monitoring program, and identify the ground water protection standards in the annual ground water monitoring and corrective action report.
- e. If the concentrations of all constituents listed in appendices I and II to this chapter are shown to be at or below background values, using the statistical procedures in subdivision g of subsection 3, for two consecutive sampling events, the owner or operator may return to detection monitoring of the CCR unit with approval by the department. The owner or operator shall prepare a notification stating that detection monitoring is resuming for the CCR unit. The owner or operator has completed the notification when the notification is submitted to the department and placed in the facility's operating record.
- f. If the concentrations of any constituent in appendices I and II to this chapter are above background values, but all concentrations are below the established ground water protection standard, using the statistical procedures in subdivision g or subsection 3, the owner or operator must continue assessment monitoring in accordance with this section.

g. If one or more constituents in appendix II to this chapter are detected at statistically significant levels above the established ground water protection standard in any sampling event, the owner or operator shall prepare a notification identifying the constituents in appendix II to this chapter that have exceeded the ground water protection standard. The owner or operator has completed the notification when the notification is submitted to the department and placed in the facility's operating record. The owner or operator of the CCR unit also shall:

- (1) Characterize the nature and extent of the release and any relevant site conditions that may affect the remedy ultimately selected. The characterization must be sufficient to support a complete and accurate assessment of the corrective measures necessary to effectively clean up all releases from the CCR unit pursuant to subsection 6. Characterization of the release includes the following minimum measures:
 - (a) Install additional monitoring wells necessary to define the contaminant plume or plumes;
 - (b) Collect data on the nature and estimated quantity of material released including specific information on the constituents listed in appendix II to this chapter and the levels at which they are present in the material released;
 - (c) Install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with paragraph 1 of subdivision d; and
 - (d) Sample all wells in accordance with paragraph 1 of subdivision d to characterize the nature and extent of the release.
- (2) Notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated offsite. The owner or operator has completed the notifications when they are placed in the facility's operating record.
- (3) Within ninety days of finding that any of the constituents listed in appendix II to this chapter have been detected at a statistically significant level exceeding the ground water protection standards the owner or operator must either:
 - (a) Initiate an assessment of corrective measures as required by subsection 6; or
 - (b) Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground water quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be approved by the department. If a successful demonstration is made, the owner or operator shall continue monitoring in accordance with the assessment monitoring program pursuant to this subsection and may return to detection monitoring if the constituents in appendices I and II to this chapter are at or below the established background. The owner or operator also shall include the demonstration in the annual ground water monitoring and corrective action report.
- (4) If a successful demonstration has not been made at the end of the ninety-day period provided by subparagraph b of paragraph 3, the owner or operator of the CCR unit

shall initiate the assessment of corrective measures requirements under subsection 6.

- (5) If an assessment of corrective measures is required and if the CCR unit is an existing unlined CCR surface impoundment, then the CCR unit is subject to the closure requirements under subdivision a of subsection 2 of section 33.1-20-08-07 to retrofit or close. In addition, the owner or operator shall prepare a notification stating that an assessment of corrective measures has been initiated.
- h. The ground water protection standard for each constituent in appendix II to this chapter detected in the ground water must be:
- (1) The maximum contaminant level for constituents for which an maximum contaminant level has been established under chapter 33.1-17-01; or
 - (2) For the following constituents:
 - (a) Cobalt - 6 micrograms per liter (ug/ l);
 - (b) Lead - 15 ug/l;
 - (c) Lithium - 40 ug/l; and
 - (d) Molybdenum - 100 ug/l.; or
 - (3) The background concentration for constituents for which the background level is higher than the maximum contaminant level or the levels identified in paragraph 2 of this subdivision.
6. Assessment of corrective measures.
- a. Within ninety days of finding that any constituent listed in appendix II to this chapter has been detected at a statistically significant level exceeding the ground water protection standard, or immediately upon detection of a release from a CCR unit, the owner or operator shall initiate an assessment of corrective measures to prevent further releases, to remediate any releases and to restore affected areas to original conditions. The assessment of corrective measures must be completed within ninety days, unless the owner or operator demonstrates the need for additional time to complete the assessment of corrective measures due to site-specific conditions or circumstance and obtains approval by the department. The ninety-day deadline to complete the assessment of corrective measures may be extended for no longer than sixty days. The owner or operator also shall include the demonstration and approval in the annual ground water monitoring and corrective action report.
 - b. The owner or operator of the CCR unit shall continue to monitor ground water in accordance with the assessment monitoring program.
 - c. The assessment of corrective measures must include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under subsection 7, addressing at least the following:
 - (1) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
 - (2) The time required to begin and complete the remedy;

- (3) The institutional requirements, such as state or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy.
 - d. The assessment has been completed when it is approved by the department and placed in the facility's operating record.
 - e. The owner or operator shall discuss the results of the corrective measures assessment at least thirty days prior to the selection of remedy, in a public meeting with interested and affected parties.
7. Selection of remedy.
- a. Based on the results of the corrective measures assessment, the owner or operator shall, as soon as feasible, select a remedy. This requirement applies to, not in place of, any applicable standards under the Occupational Safety and Health Act of 1970 [Public Law 91-596; 84 Stat. 1590]. The owner or operator shall prepare a semiannual report describing the progress in selecting and designing the remedy. Upon selection of a remedy, the owner or operator shall prepare a final report describing the selected remedy and how it meets the standards specified in this subsection. The report has been completed when it is approved by the department and placed in the operating record.
 - b. Remedies must:
 - (1) Be protective of human health and the environment;
 - (2) Attain the ground water protection standard as specified pursuant to subdivision h of subsection 5, or attain a risk-based ground water concentration that is protective of human health and the environment;
 - (3) Control the sources of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of constituents in appendix II to this chapter into the environment;
 - (4) Remove from the environment as much of the contaminated material that was released from the CCR unit as is feasible, taking into account factors such as avoiding inappropriate disturbance of sensitive ecosystems;
 - (5) Comply with standards for management of wastes as specified in subdivision d of subsection 8.
 - c. In selecting a remedy that meets the standards of this subsection, the owner or operator of the CCR unit shall consider the following evaluation factors:
 - (1) The long- and short-term effectiveness and protectiveness of the potential remedies, along with the degree of certainty that the remedy will prove successful based on consideration of the following:
 - (a) Magnitude of reduction of existing risks;
 - (b) Magnitude of residual risks in terms of likelihood of further releases due to CCR remaining following implementation of a remedy;
 - (c) The type and degree of long-term management required, including monitoring, operation, and maintenance;
 - (d) Short-term risks that might be posed to the community or the environment during implementation of such a remedy, including potential threats to human

health and the environment associated with excavation, transportation, and
redisposal of contaminant;

- (e) Time until full protection is achieved;
 - (f) Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment;
 - (g) Long-term reliability of the engineering and institutional controls; and
 - (h) Potential need for replacement of the remedy.
- (2) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors:
- (a) The extent to which containment practices will reduce further releases; and
 - (b) The extent to which treatment technologies may be used.
- (3) The ease or difficulty of implementing a potential remedy based on consideration of the following types of factors:
- (a) Degree of difficulty associated with constructing the technology;
 - (b) Expected operational reliability of the technologies;
 - (c) Need to coordinate with and obtain necessary approvals and permits from other agencies;
 - (d) Availability of necessary equipment and specialists; and
 - (e) Available capacity and location of needed treatment, storage, and disposal services.
- (4) The degree to which community concerns are addressed by a potential remedy.
- d. The owner or operator shall specify as part of the selected remedy a schedule for implementing and completing remedial activities. Such a schedule must require the completion of remedial activities within a reasonable period of time, taking into consideration:
- (1) Extent and nature of contamination;
 - (2) Reasonable probabilities of remedial technologies in achieving compliance with ground water protection standards and other objectives of the remedy;
 - (3) Availability of treatment or disposal capacity for CCR managed during implementation of the remedy;
 - (4) Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;
 - (5) Resource value of the aquifer, including:
 - (a) Current and future uses;
 - (b) Proximity and withdrawal rate of users;

- (c) Ground water quantity and quality;
 - (d) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to CCR constituents;
 - (e) The hydrogeologic characteristic of the facility and surrounding land; and
 - (f) The availability of alternative water supplies; and
 - (6) Other relevant factors.
 - e. The department may determine that remediation of a release of a constituent listed in appendix II to this chapter from a CCR unit is not necessary if the owner or operator demonstrates to the satisfaction of the department that:
 - (1) The ground water is additionally contaminated by substances that have originated from a source other than a CCR unit and those substances are present in concentrations such that cleanup of the release from the CCR unit would provide no significant reduction in risk to actual or potential receptors; or
 - (2) The constituent is present in ground water that:
 - (a) Is not currently or reasonably expected to be a source of drinking water; and
 - (b) Is not hydraulically connected with waters to which the constituent is migrating or are likely to migrate in a concentration that would exceed the ground water protection standards; or
 - (3) Remediation of the release is technically impracticable; or
 - (4) Remediation results in unacceptable cross-media impacts.
 - f. A determination by the department that remediation of a release is not necessary may not affect the requirement under subdivision b for the owner or operator to undertake source control measures or other measures, including closure if triggered, that may be necessary to eliminate or minimize further releases to the ground water, to prevent exposure to the ground water, or to remediate the ground water to concentrations that are technically feasible and significantly reduce threats to human health or the environment.
8. Implementation of the corrective action program.
- a. Within ninety days of selecting a remedy under subsection 7, the owner or operator shall initiate remedial activities. Based on the schedule established under subdivision d of subsection 7, for implementation and completion of remedial activities the owner or operator shall:
 - (1) Establish and implement a corrective action ground water monitoring program that:
 - (a) Meets the requirements of an assessment monitoring program under subsection 5;
 - (b) Documents the effectiveness of the corrective action remedy; and
 - (c) Demonstrates compliance with the ground water protection standards.
 - (2) Implement the selected corrective action remedy; and

- (3) Take any interim measures necessary to reduce the contaminants leaching from the CCR unit and potential exposures to human or ecological receptors. Interim measures must, to the greatest extent feasible, be consistent with the objectives of, and contribute to the performance of, any remedy that may be required pursuant to subsection 7. The following factors must be considered by an owner or operator in determining whether interim measures are necessary:
- (a) Time required to develop and implement a final remedy;
 - (b) Actual or potential exposure of nearby populations or environmental receptors to any of the constituents listed in appendix II to this chapter;
 - (c) Actual or potential contamination of drinking water supplies or sensitive ecosystems;
 - (d) Further degradation of the ground water that may occur if remedial action is not initiated expeditiously;
 - (e) Weather conditions that may cause any of the constituents listed in appendix II to this chapter to migrate or be released;
 - (f) Potential for exposure to any of the constituents listed in appendix II to this chapter as a result of an accident or failure of a container or handling system; and
 - (g) Other situations that may pose threats to human health and the environment.
- b. If an owner or operator of the CCR unit, determines, at any time, that compliance with the requirements of subdivision b of subsection 7 is not being achieved through the remedy selected, the owner or operator shall implement other methods or techniques that could feasibly achieve compliance with the requirements.
- c. Remedies selected pursuant to subsection 7 must be considered complete when:
- (1) The owner or operator of the CCR unit demonstrates that compliance with the ground water protection standards has been achieved at all points within the plume of contamination that lie beyond the ground water monitoring well system established under subsection 2;
 - (2) Except as provided by paragraph 4, compliance with the ground water protection standards has been achieved by demonstrating that concentrations of constituents listed in appendix II to this chapter have not exceeded the ground water protection standards for a period of three consecutive years using the statistical procedures and performance standards in subdivisions f and g of subsection 3; and
 - (3) All actions required to complete the remedy have been satisfied.
 - (4) The department may specify an alternative length of time to that specified in paragraph 2 during which the owner or operator must demonstrate that concentrations of constituents listed in appendix II to this chapter have not exceeded the ground water protection standards taking into consideration:
 - (a) Extent and concentration of the release;
 - (b) Behavior characteristics of the constituents in the ground water;

- (c) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and
 - (d) Characteristics of the ground water.
 - d. All CCR that are managed pursuant to a remedy required under subsection 7, or an interim measure required under paragraph 3 of subdivision a, shall be managed in a manner that complies with all applicable requirements under this article and North Dakota Century Code chapter 23.1-08.
 - e. Upon completion of the remedy, the owner or operator shall prepare a notification stating that the remedy has been completed. The owner or operator shall obtain a certification from a qualified professional engineer or a qualified environmental professional that the remedy has been completed. The report has been completed when it is approved by the department and placed in the operating record.
- 9. Corrective action procedures to remedy eligible nonground water releases.
 - a. General. This subsection specifies the corrective action requirements that apply to nonground water releases from CCR units that can be completely remediated within one hundred eighty days from the detection of the release. A release is completely remediated when a qualified professional engineer or a qualified environmental professional completes the certification required in paragraph 3 of subdivision c and the corrective action report is approved by the department. If the owner or operator determines, at any time, that the release will not be completely remediated within this one hundred eighty-day time frame, the owner or operator shall comply with all additional requirements specified in subsections 6, 7, and 8.
 - b. Corrective action requirements. Upon detection of a nonground water release from a CCR unit, the owner or operator shall comply with all of the following requirements:
 - (1) Immediately take all necessary measures to control all sources of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of contaminants into the environment;
 - (2) Determine the corrective measures that will meet the substantive standards in subdivision a of subsection 6 to prevent further releases, to remediate any releases, and to restore the affected area to original conditions;
 - (3) Analyze the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described in subdivision c of subsection 6;
 - (4) Select the corrective action that will remedy the nonground water release, taking into account the results of the assessment in this subdivision and the factors specified in subdivision c of subsection 7;
 - (5) Remediate the nonground water release to meet the standards specified in subdivision b of subsection 7; and
 - (6) Complete the remedy within one hundred eighty days of the date of discovery of the release.
 - c. Required notices and reports. An owner or operator of a CCR unit that complies with the requirements of this subsection to remediate a nonground water release shall ensure that

the notices and reports specified in this subdivision are completed. All required notices and reports must be signed by the owner or operator.

- (1) Within fifteen days of discovering a nonground water release, the owner or operator shall prepare a notification of discovery of a nonground water release. The owner or operator has completed the notification when it has been placed in the facility's operating record and submitted to the department.
- (2) Within fifteen days of completing the analysis of the effectiveness of potential corrective measures, place the completed analysis in the facility's operating record and submit to the department.
- (3) Within thirty days of completion of a corrective action of a nonground water release, the owner or operator shall prepare a report documenting the completion of the corrective action. The report must describe the nature and extent of the nonground water release, the CCR units responsible for the nonground water release, and how the remedy selected achieves the corrective action requirements specified in this subsection. The notification must include a certification by a qualified professional engineer or a qualified environmental professional that the corrective action has been completed. The owner or operator has completed the report when it has been approved by the department and placed in the facility's operating record.

History: Effective July 1, 2020.

General Authority: NDCC 23.1-08-03

Law Implemented: NDCC 23.1-08-03, 23.1-08-04

33.1-20-08-07. Closure and postclosure care.

1. Inactive CCR surface impoundments.

- a. Inactive CCR surface impoundments are subject to all of the requirements of this chapter applicable to existing CCR surface impoundments.
- b. The owner or operator of an inactive CCR surface impoundment shall include documentation of the requirements of this subdivision with the permit modification application required by subsection 9 of section 33.1-20-08-02.

(1) Recordkeeping, notification, and internet requirements.

- (a) The owner or operator must have prepared and placed a notification of intent to initiate closure of the inactive CCR surface impoundment in the facility's operating record;
- (b) The owner or operator must have provided notification of the intent to initiate closure of the inactive CCR surface impoundment to the department; and
- (c) The owner or operator must have placed the notification of intent to initiate closure of the inactive CCR surface impoundment on its CCR website.

(2) Location restrictions.

- (a) The owner or operator of the inactive CCR surface impoundment shall:

- [1] Complete the demonstration for placement above the uppermost aquifer as set forth by subsection 1 of section 33.1-20-08-03;
- [2] Complete the demonstration for wetlands as set forth by subsection 2 of section 33.1-20-08-03;

- [3] Complete the demonstration for fault areas as set forth by subsection 3 of section 33.1-20-08-03;
 - [4] Complete the demonstration for seismic impact zones as set forth by subsection 4 of section 33.1-20-08-03;
 - [5] Complete the demonstration for unstable areas as set forth by subsection 5 of section 33.1-20-08-03.
- (b) An owner or operator of an inactive CCR surface impoundment who fails to demonstrate compliance with the requirements of subparagraph a is subject to the closure requirements of paragraph 1 of subdivision b of subsection 2.
- (3) Design criteria. The owner or operator of the inactive CCR surface impoundment shall:
- (a) Complete the documentation of liner type as set forth by subdivision a of subsection 2 of section 33.1-20-08-04.
 - (b) Place on or immediately adjacent to the CCR unit the permanent identification marker as set forth by paragraph 1 of subdivision a of subsection 3 of section 33.1-20-08-04.
 - (c) Prepare and maintain an emergency action plan as set forth by paragraph 3 of subdivision a of subsection 3 of section 33.1-20-08-04.
 - (d) Compile information relating to construction as set forth by subdivision c of subsection 3 of section 33.1-20-08-04.
 - (e) Complete the initial hazard potential classification, structural stability, and safety factor assessments as set forth by paragraph 2 of subdivision a and subdivisions d and e of subsection 3 of section 33.1-20-08-04.
- (4) Operating criteria. The owner or operator of the inactive CCR surface impoundment shall:
- (a) Prepare the initial CCR fugitive dust control plan as set forth in subsection 1 of section 33.1-20-08-05.
 - (b) Prepare the initial inflow design flood control system plan as set forth in subsection 3 of section 33.1-20-08-05.
 - (c) Initiate the inspections by a qualified person as set forth by subsection 4 of section 33.1-20-08-05.
 - (d) Complete the initial annual inspection by a qualified professional engineer set forth in subsection 4 of section 33.1-20-08-05.
- (5) Ground water monitoring and corrective action. The owner or operator of the inactive CCR surface impoundment shall:
- (a) Comply with ground water monitoring requirements set forth in subdivision b of subsection 1 of section 33.1-20-08-06 and subdivision b of subsection 4 of section 33.1-20-08-06; and
 - (b) Prepare the initial ground water monitoring and corrective action report as set forth in subdivision e of subsection 1 of section 33.1-20-08-06.

(6) Closure and postclosure care. The owner or operator of the inactive CCR surface impoundment shall:

- (a) Prepare an initial written closure plan as set forth in subdivision b of subsection 3; and
- (b) Prepare an initial written postclosure care plan as set forth in subdivision d of subsection 5.

2. Closure or retrofit of CCR units.

a. The owner or operator of an existing unlined CCR surface impoundment, as determined under subdivision a of subsection 2 of section 33.1-20-08-04, is subject to the requirements of paragraph 1.

- (1) Except as provided by paragraph 3, an owner or operator of an existing unlined CCR surface impoundment shall cease placing CCR and non-CCR waste streams into the unlined CCR surface impoundment and either retrofit or close the CCR unit in accordance with the requirements of subsection 3.
- (2) An owner or operator of an existing unlined CCR surface impoundment that closes in accordance with paragraph 1 shall include a statement in the notification required under subdivision g of subsection 3 or paragraph 5 of subdivision j of subsection 3, that the CCR surface impoundment is closing or retrofitting under the requirements of paragraph 1.
- (3) The time frame specified in paragraph 1 does not apply if the owner or operator complies with the alternative closure procedures specified in subsection 4.
- (4) At any time after the initiation of closure under paragraph 1, the owner or operator may cease closure activities and initiate a retrofit of the CCR unit in accordance with the requirements of subdivision j of subsection 3.

b. The owner or operator of an existing CCR surface impoundment is subject to the requirements of paragraph 1.

(1) Noncompliance with location standards.

- (a) Placement above the uppermost aquifer. Except as provided by paragraph 4, the owner or operator of an existing CCR surface impoundment that has not demonstrated compliance with the location standard specified in subsection 1 of section 33.1-20-08-03, shall cease placing CCR and non-CCR waste streams into such CCR unit no later than October 31, 2020, and close the CCR unit in accordance with the requirements of subsection 3.
 - (b) Wetlands, fault areas, seismic impact zones and unstable areas. Except as provided by paragraph 4, within six months of determining that an existing CCR surface impoundment has not demonstrated compliance with any location standard specified in subsections 2 through 5 of section 33.1-20-08-03, the owner or operator of the CCR surface impoundment shall cease placing CCR and non-CCR waste streams into such CCR unit and close the CCR unit in accordance with the requirements of subsection 3.
- (2) Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by subdivision e of subsection 3 of section 33.1-20-08-04 by the deadlines specified in subdivision f of subsection 3 of section 33.1-20-08-04 or failing to document that the calculated factors of safety for the

existing CCR surface impoundment achieve the minimum safety factors specified in subdivision e of subsection 3 of section 33.1-20-08-04, the owner or operator of the CCR surface impoundment shall cease placing CCR and non-CCR waste streams into such CCR unit and close the CCR unit in accordance with the requirements of subsection 3.

- (3) An owner or operator of an existing CCR surface impoundment that closes in accordance with paragraphs 1 or 2 shall include a statement in the closure notification required under subdivision g of subsection 3 that the CCR surface impoundment is closing under the requirements.
- (4) The time frame specified in paragraph 1 does not apply if the owner or operator complies with the alternative closure procedures specified in subsection 4.

c. The owner or operator of a new CCR surface impoundment is subject to the requirements of paragraph 1.

- (1) Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by subdivision e of subsection 3 of section 33.1-20-08-04 by the deadlines specified in subdivision f of subsection 3 of section 33.1-20-08-04 or failing to document that the calculated factors of safety for the new CCR surface impoundment achieve the minimum safety factors specified in subdivision e of subsection 3 of section 33.1-20-08-04, the owner or operator of the CCR surface impoundment must cease placing CCR and non-CCR waste streams into such CCR unit and close the CCR unit in accordance with the requirements of subsection 3.
- (2) An owner or operator of a new CCR surface impoundment that closes in accordance with paragraph 1 shall include a statement in the closure notification required under subdivision g of subsection 3 that the CCR surface impoundment is closing under the requirements of this subdivision.

d. The owner or operator of an existing CCR landfill is subject to the requirements of paragraph 1.

- (1) Except as provided by paragraph 3, within six months of determining that an existing CCR landfill has not demonstrated compliance with the location restriction for unstable areas specified in subsection 5 of section 33.1-20-08-03, the owner or operator of the CCR unit must cease placing CCR and non-CCR waste streams into that landfill and close the CCR unit in accordance with the requirements of subsection 3.
- (2) An owner or operator of an existing CCR landfill that closes in accordance with paragraph 1 shall include a statement in the closure notification required under subdivision g of subsection 3 of this section that the CCR landfill is closing under the requirements of this subdivision.
- (3) The time frame specified in paragraph 1 does not apply if the owner or operator complies with the alternative closure procedures specified in subsection 4.

3. Criteria for conducting the closure or retrofit of CCR units.

- a. Closure of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit must be completed either by leaving the CCR in place and installing a final cover system or through removal of the CCR and decontamination of the CCR unit, as described in subdivisions b through i. Retrofit of a CCR surface impoundment must be completed in accordance with the requirements in subdivision j.

b. Written closure plan.

(1) Content of the plan. The owner or operator of a CCR unit shall prepare a written closure plan that describes the steps necessary to close the CCR unit at any point during the active life of the CCR unit consistent with recognized and generally accepted good engineering practices. The written closure plan must include:

- (a) A narrative description of how the CCR unit will be closed in accordance with this subsection.
- (b) If closure of the CCR unit will be accomplished through removal of CCR from the CCR unit, a description of the procedures to remove the CCR and decontaminate the CCR unit in accordance with subdivision c.
- (c) If closure of the CCR unit will be accomplished by leaving CCR in place, a description of the final cover system and the methods and procedures to be used to install the final cover. The closure plan must also discuss how the final cover system will achieve the performance standards specified in subdivision d.
- (d) An estimate of the maximum inventory of CCR ever onsite over the active life of the CCR unit.
- (e) An estimate of the largest area of the CCR unit ever requiring a final cover at any time during the CCR unit's active life.
- (f) A schedule for completing all activities necessary to satisfy the closure criteria in this subsection, including an estimate of the year in which all closure activities for the CCR unit will be completed. The schedule should provide sufficient information to describe the sequential steps that will be taken to close the CCR unit, including identification of major milestones, such as coordinating with and obtaining necessary approvals and permits from other agencies, the dewatering and stabilization phases of CCR surface impoundment closure, or installation of the final cover system, and the estimated time frames to complete each step or phase of CCR unit closure. When preparing the written closure plan, if the owner or operator of a CCR unit estimates that the time required to complete closure will exceed the time frames specified in paragraph 1 of subdivision f of this subsection, the written closure plan must include the site-specific information, factors and considerations that would support any time extension sought under paragraph 2 of subdivision f.

(2) Time frames for preparing the initial written closure plan.

- (a) Existing CCR units. The owner or operator of the CCR unit shall include the initial written closure plan consistent with the requirements specified in paragraph 1 with the application for a permit modification that meets the requirements of this chapter within twenty-four months of July 1, 2020, as required by subsection 9 of section 33.1-20-08-02.
- (b) New CCR units and any lateral expansion of a CCR unit. The owner or operator shall include an initial written closure plan consistent with the requirements specified in paragraph 1 with the application for a new permit or permit modification.
- (c) The owner or operator has completed the written closure plan when the plan, including the certification required by paragraph 4, has been approved by the department and placed in the facility's operating record.

- (3) Amendment of a written closure plan.
 - (a) The owner or operator may amend the initial or any subsequent written closure plan at any time with approval by the department.
 - (b) The owner or operator shall amend the written closure plan whenever:
 - [1] There is a change in the operation of the CCR unit that would substantially affect the written closure plan in effect; or
 - [2] Before or after closure activities have commenced, unanticipated events necessitate a revision of the written closure plan.
 - (c) The owner or operator shall amend the closure plan at least sixty days prior to a planned change in the operation of the facility or CCR unit, or no later than sixty days after an unanticipated event requires the need to revise an existing written closure plan. If a written closure plan is revised after closure activities have commenced for a CCR unit, the owner or operator shall amend the current closure plan no later than thirty days following the triggering event.
- (4) The owner or operator of the CCR unit shall obtain a written certification from a qualified professional engineer that the initial and any amendment of the written closure plan meets the requirements of this subsection.
- c. Closure by removal of CCR. An owner or operator may elect to close a CCR unit by removing and decontaminating all areas affected by releases from the CCR unit. Coal combustion residuals removal and decontamination of the CCR unit are complete when constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have been removed and ground water monitoring concentrations do not exceed the established ground water protection standards for constituents listed in appendix II to this chapter.
- d. Closure performance standard when leaving CCR in place.
 - (1) The owner or operator of a CCR unit shall ensure that, at a minimum, the CCR unit is closed in a manner that will:
 - (a) Control, minimize, or eliminate, to the maximum extent feasible, postclosure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters or to the atmosphere;
 - (b) Preclude the probability of future impoundment of water, sediment, or slurry;
 - (c) Include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system during the closure and postclosure care period;
 - (d) Minimize the need for further maintenance of the CCR unit; and
 - (e) Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices.
 - (2) Drainage and stabilization of CCR surface impoundments. Prior to installing the final cover system, the owner or operator of a CCR surface impoundment or any lateral expansion of a CCR surface impoundment shall:
 - (a) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues.

- (b) Stabilize remaining wastes sufficiently to support the final cover system.
- (3) Final cover system. If a CCR unit is closed by leaving CCR in place, the owner or operator shall install a final cover system that is designed to minimize infiltration and erosion, and at a minimum, meets the requirements of subparagraph a, or the requirements of the alternative final cover system specified in subparagraph b. The design of the final cover system must be included in the written closure plan.
 - (a) The final cover system must be designed and constructed to meet these criteria:
 - [1] The infiltration of liquids through the closed CCR unit must be minimized by the use of an infiltration layer that contains a minimum of eighteen inches [45.7 centimeters] of earthen material. The saturated hydraulic conductivity of the infiltration layer must be no greater than 1×10^{-7} centimeters per second.
 - [2] A second layer of twelve inches [30.5 centimeters] or more of clay-rich soil material suitable for serving as a plant root zone must be placed over the compacted layer. This layer is not required if the CCR unit contains only bottom ash.
 - [3] The erosion of the final cover system must be minimized by the use of an erosion layer that contains a minimum of six inches [15.2 centimeters] of suitable plant growth material over the covered CCR unit and the facility planted with adapted grasses. The total depth of final cover must be three feet [91.4 centimeters] or more unless the CCR unit contains only bottom ash, in which case the total depth of final cover must be two feet [61.0 centimeters] or more.
 - [4] The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.
 - (b) The owner or operator may select an alternative final cover system design, provided the alternative final cover system is designed and constructed to meet these criteria:
 - [1] The design of the final cover system must include an infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in items 1 and 2 of subparagraph a or an average long-term percolation rate less than 0.2 inches [5.0 millimeters] per year.
 - [2] The design of the final cover system must include an erosion layer that provides equivalent protection from wind or water erosion as the erosion layer specified in item 3 of subparagraph a.
 - [3] The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.
 - (c) The owner or operator of the CCR unit shall obtain a written certification from a qualified professional engineer that the design of the final cover system meets the requirements of this section.
- (4) Use of CCR in design and construction of final cover system.
 - (a) This paragraph specifies the allowable uses of CCR in the closure of CCR units closing pursuant to subsection 2. Coal combustion residuals may be

placed in such units with approval by the department, but only for the purposes of grading and contouring in the design and construction of the final cover system.

- (b) The owner or operator of a CCR unit shall meet all of the following criteria when placing CCR within a CCR unit for the purposes of grading or contouring:
 - [1] The CCR placed for construction of the final cover system must have been generated at the facility and be located at the facility at the time closure was initiated;
 - [2] For incised CCR surface impoundments the CCR must be placed entirely above the highest elevation of the surrounding natural ground surface where the CCR surface impoundment was constructed;
 - [3] For all other CCR units, CCR must be placed entirely above the highest elevation of CCR in the unit, following dewatering and stabilization;
 - [4] The CCR must not be placed outside the plane extending vertically from the line formed by the intersection of the crest of the CCR surface impoundment and the upstream slope of the CCR surface impoundment; and
 - [5] The final cover system must be constructed with either:
 - [a] A slope not steeper than five percent grade after allowance for settlement; or
 - [b] At a steeper grade, if the department determines that the steeper slope is necessary based on conditions at the site, to facilitate runoff and minimize erosion, and that side slopes are evaluated for erosion potential based on a stability analysis to evaluate possible erosion potential. The stability analysis, at a minimum, must evaluate the site geology; characterize soil shear strength; construct a slope stability model; establish ground water and seepage conditions, if any; select loading conditions; locate critical failure surface; and iterate until minimum factor of safety is achieved.
- e. Initiation of closure activities. Except as provided for in paragraph 5 and subsection 4, the owner or operator of a CCR unit must commence closure of the CCR unit no later than the applicable time frames specified in either paragraph 1, 2, or 3.
 - (1) The owner or operator shall commence closure of the CCR unit no later than thirty days after the date on which the CCR unit either:
 - (a) Receives the known final receipt of waste, either CCR or any non-CCR waste stream; or
 - (b) Removes the known final volume of CCR from the CCR unit for the purpose of beneficial use of CCR.
 - (2) Except as provided by paragraph 3, the owner or operator shall commence closure of a CCR unit that has not received CCR or any non-CCR waste stream or is no longer removing CCR for the purpose of beneficial use within two years of the last receipt of waste or within two years of the last removal of CCR material for the purpose of beneficial use.

(3) Notwithstanding paragraph 2, the owner or operator of the CCR unit may secure an additional two years to initiate closure of the idle unit provided the owner or operator provides written documentation to the department that the CCR unit will continue to accept wastes or will start removing CCR for beneficial use. The documentation must be supported by, at a minimum, the information specified in subparagraphs a and b. The owner or operator may obtain two-year extensions provided the owner or operator continues to be able to demonstrate that there is reasonable likelihood that the CCR unit will accept wastes in the foreseeable future or will remove CCR from the unit for beneficial use. The owner or operator shall submit each completed demonstration to the department and place it in the facility's operating record prior to the end of any two-year period.

(a) Information documenting that the CCR unit has remaining storage or disposal capacity or that the CCR unit can have CCR removed for the purpose of beneficial use; and

(b) Information demonstrating that there is a reasonable likelihood that the CCR unit will resume receiving CCR or non-CCR waste streams in the foreseeable future or that CCR can be removed for the purpose of beneficial use. The narrative must include a best estimate as to when the CCR unit will resume receiving CCR or non-CCR waste streams. The situations listed in items 1 through 4 are examples of situations that would support a determination that the CCR unit will resume receiving CCR or non-CCR waste streams in the foreseeable future.

[1] Normal plant operations include periods during which the CCR unit does not receive CCR or non-CCR waste streams, such as the alternating use of two or more CCR units whereby at any point in time one CCR unit is receiving CCR while CCR is being removed from a second CCR unit after its dewatering.

[2] The CCR unit is dedicated to a coal-fired boiler unit that is temporarily idled (e.g., CCR is not being generated) and there is a reasonable likelihood that the coal-fired boiler will resume operations in the future.

[3] The CCR unit is dedicated to an operating coal-fired boiler (i.e., CCR is being generated); however, no CCR is being placed in the CCR unit because the CCR is being entirely diverted to beneficial uses, but there is a reasonable likelihood that the CCR unit will again be used in the foreseeable future.

[4] The CCR unit currently receives only non-CCR waste streams and those non-CCR waste streams are not generated for an extended period of time, but there is a reasonable likelihood that the CCR unit will again receive non-CCR waste streams in the future.

(c) In order to obtain additional time extensions to initiate closure of a CCR unit beyond the first two years provided by paragraph 2, the owner or operator of the CCR unit shall include with the demonstration required by this subdivision the following statement signed by the owner or operator or an authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted

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information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

- (4) For purposes of this chapter, closure of the CCR unit has commenced if the owner or operator has ceased placing waste and completes any of the following actions or activities:
 - (a) Taken any steps necessary to implement the written closure plan required by paragraph b;
 - (b) Submitted a completed application for any required state or agency permit or permit modification; or
 - (c) Taken any steps necessary to comply with any state or other agency standards that are a prerequisite, or are otherwise applicable, to initiating or completing the closure of a CCR unit.
- (5) The time frames specified in paragraphs 1 and 2 do not apply to any owners or operators of CCR units under closure as required by subdivisions a through d of subsection 2.

f. Completion of closure activities.

- (1) Except as provided for in paragraphs 2 and 3, the owner or operator shall complete closure of the CCR unit:
 - (a) For existing and new CCR landfills and any lateral expansion of a CCR landfill, within six months of commencing closure activities.
 - (b) For existing and new CCR surface impoundments and any lateral expansion of a CCR surface impoundment, within five years of commencing closure activities.
- (2) Extensions of closure time frames. With approval by the department, the time frames for completing closure of a CCR unit specified under paragraph 1 may be extended if the owner or operator can demonstrate that it was not feasible to complete closure of the CCR unit within the required time frames due to factors beyond the facility's control. If the owner or operator is seeking a time extension beyond the time specified in the written closure plan as required by subdivision b, the demonstration must include a narrative discussion providing the basis for additional time beyond that specified in the closure plan. The owner or operator shall place each completed demonstration, if more than one time extension is sought, in the facility's operating record prior to the end of any two-year period. Factors that may support such a demonstration include:
 - (a) Complications stemming from the climate and weather, such as unusual amounts of precipitation or a significantly shortened construction season;
 - (b) Time required to dewater a surface impoundment due to the volume of CCR contained in the CCR unit or the characteristics of the CCR in the unit;
 - (c) The geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit; or
 - (d) Time required or delays caused by the need to coordinate with and obtain necessary approvals and permits from a state or other agency.

(3) Maximum time extensions.

- (a) CCR surface impoundments of forty acres [16.2 hectares] or smaller may extend the time to complete closure by no longer than two years.
- (b) CCR surface impoundments larger than forty acres [16.2 hectares] may extend the time frame to complete closure of the CCR unit multiple times, in two-year increments. For each two-year extension sought, the owner or operator shall substantiate the factual circumstances demonstrating the need for the extension. No more than a total of five two-year extensions may be obtained for any CCR surface impoundment.
- (c) CCR landfills may extend the time frame to complete closure of the CCR unit multiple times, in one-year increments. For each one-year extension sought, the owner or operator must substantiate the factual circumstances demonstrating the need for the extension. No more than a total of two one-year extensions may be obtained for any CCR landfill.

(4) In order to obtain additional time extensions to complete closure of a CCR unit beyond the times provided by paragraph 1, the owner or operator of the CCR unit shall include with the demonstration required by paragraph 2 the following statement signed by the owner or operator or an authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(5) Upon completion, the owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer verifying that closure has been completed in accordance with the closure plan specified in subdivision b and the requirements of this subsection.

- g. Before starting closure of a CCR unit, the owner or operator shall prepare a notification of intent to close a CCR unit. The notification must include the certification by a qualified professional engineer for the design of the final cover system as required by subparagraph c of paragraph 3 of subdivision d, if applicable. The owner or operator has completed the notification when it has been submitted to the department and placed in the facility's operating record.
- h. Within thirty days of completion of closure of the CCR unit, the owner or operator shall prepare a notification of closure of a CCR unit. The notification must include the certification by a qualified professional engineer required by paragraph 5 of subdivision f. The owner or operator has completed the notification when it has been submitted to the department and placed in the facility's operating record.
- i. Deed notations.
 - (1) Except as provided by paragraph 4, following closure of a CCR unit, the owner or operator shall record a notation on the deed to the property, or some other instrument that is normally examined during title search.
 - (2) The notation on the deed must in perpetuity notify any potential purchaser of the property that:

- (a) The land has been used as a CCR unit; and
 - (b) Its use is restricted under the postclosure care requirements as provided by subparagraph c of paragraph 1 of subdivision d of subsection 5.
 - (3) Within sixty days of recording a notation on the deed to the property, the owner or operator shall submit a notification to the department stating that the deed notation has been recorded. The owner or operator has completed the notification when it has been placed in the facility's operating record.
 - (4) An owner or operator that closes a CCR unit by removal of all CCR materials in accordance with subdivision c is not subject to the requirements of paragraphs 1 through 3.
- j. Criteria to retrofit an existing CCR surface impoundment.
- (1) To retrofit an existing CCR surface impoundment, the owner or operator must:
 - (a) First remove all CCR, including any contaminated soils and sediments from the CCR unit; and
 - (b) Comply with the requirements in subdivision b of subsection 2 of section 33.1-20-08-04.
 - (c) A CCR surface impoundment undergoing a retrofit remains subject to all other requirements of this chapter, including the requirement to conduct any necessary corrective action.
 - (2) Written retrofit plan.
 - (a) Content of the plan. The owner or operator shall prepare a written retrofit plan for approval by the department that describes the steps necessary to retrofit the CCR unit consistent with recognized and generally accepted good engineering practices. The written retrofit plan must include:
 - [1] A narrative description of the specific measures that will be taken to retrofit the CCR unit in accordance with this section.
 - [2] A description of the procedures to remove all CCR and contaminated soils and sediments from the CCR unit.
 - [3] An estimate of the maximum amount of CCR that will be removed as part of the retrofit operation.
 - [4] An estimate of the largest area of the CCR unit that will be affected by the retrofit operation.
 - [5] A schedule for completing all activities necessary to satisfy the retrofit criteria in this section, including an estimate of the year in which retrofit activities of the CCR unit will be completed.
 - (b) Time frames for preparing the initial written retrofit plan.
 - [1] No later than sixty days prior to the date of initiating retrofit activities, the owner or operator shall prepare the initial written retrofit plan. For purposes of this chapter, initiation of retrofit activities has commenced if the owner or operator has ceased placing waste in the unit and completes any of the following actions or activities:

- [a] Taken any steps necessary to implement the written retrofit plan;
- [b] Submitted a completed application for a permit or permit modification;
or
- [c] Taken any steps necessary to comply with any state standards that are a prerequisite, or are otherwise applicable, to initiating or completing the retrofit of a CCR unit.

[2] The owner or operator has completed the written retrofit plan when the plan, including the certification required by subparagraph d, has been approved by the department and placed in the facility's operating record.

(c) Amendment of a written retrofit plan.

[1] The owner or operator may amend the initial or any subsequent written retrofit plan at any time with approval by the department.

[2] The owner or operator shall amend the written retrofit plan whenever:

- [a] There is a change in the operation of the CCR unit that would substantially affect the written retrofit plan in effect; or
- [b] Before or after retrofit activities have commenced, unanticipated events necessitate a revision of the written retrofit plan.

[3] The owner or operator shall amend the retrofit plan at least sixty days prior to a planned change in the operation of the facility or CCR unit, or no later than sixty days after an unanticipated event requires the revision of an existing written retrofit plan. If a written retrofit plan is revised after retrofit activities have commenced for a CCR unit, the owner or operator shall amend the current retrofit plan no later than thirty days following the triggering event.

(d) The owner or operator of the CCR unit shall obtain a written certification from a qualified professional engineer that the activities outlined in the written retrofit plan, including any amendment of the plan, meet the requirements of this section.

- (3) Deadline for completion of activities related to the retrofit of a CCR unit. Any CCR surface impoundment that is being retrofitted must complete all retrofit activities within the same time frames and procedures specified for the closure of a CCR surface impoundment in subdivision f or, where applicable, subsection 4.
- (4) Upon completion, the owner or operator shall obtain a certification from a qualified professional engineer verifying that the retrofit activities have been completed in accordance with the retrofit plan.
- (5) Before initiating the retrofit of a CCR unit, the owner or operator shall prepare a notification of intent to retrofit a CCR unit. The owner or operator has completed the notification when it has been submitted to the department and placed in the facility's operating record.
- (6) Within thirty days of completing the retrofit activities the owner or operator shall prepare a notification of completion of retrofit activities. The notification must include the certification by a qualified professional engineer as required by paragraph 4.

The owner or operator has completed the notification when it has been submitted to the department and placed in the facility's operating record.

- (7) At any time after the initiation of a CCR unit retrofit, the owner or operator may cease the retrofit and initiate closure of the CCR unit in accordance with the requirements of this subsection.
4. Alternative closure requirements. The owner or operator of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit that is subject to closure pursuant to subdivisions a, b, or d of subsection 2 may continue to receive CCR or non-CCR waste streams in the unit provided the owner or operator meets the requirements of either subdivision a, b, or c and receives approval by the department.
- a. No alternative CCR disposal capacity.
- (1) Notwithstanding the provisions of subdivisions a, b, or d of subsection 2, a CCR unit may continue to receive CCR if the owner or operator of the CCR unit certifies that the CCR shall continue to be managed in that CCR unit due to the absence of alternative disposal capacity both onsite and offsite of the facility. To qualify under this paragraph, the owner or operator of the CCR unit shall document that all of the following conditions have been met:
- (a) No alternative disposal capacity is available onsite or offsite. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under this section;
- (b) The owner or operator has made, and continues to make, efforts to obtain additional capacity. Qualification under this subsection lasts only as long as no alternative capacity is available. Once alternative capacity is identified, the owner or operator shall arrange to use such capacity as soon as feasible;
- (c) The owner or operator shall remain in compliance with all other requirements of this chapter, including the requirement to conduct any necessary corrective action; and
- (d) The owner or operator shall prepare an annual progress report documenting the continued lack of alternative capacity and the progress towards the development of alternative CCR disposal capacity.
- (2) Once alternative capacity is available, the CCR unit must cease receiving CCR and initiate closure following the time frames in subdivisions e and f of subsection 3.
- (3) If no alternative capacity is identified within five years after the initial certification, the CCR unit must cease receiving CCR and close in accordance with the time frames in subdivisions e and f of subsection 3.
- b. No alternative capacity for non-CCR waste streams.
- (1) Notwithstanding the provisions of subdivisions a, b, or d of subsection 2, a CCR unit may continue to receive non-CCR waste streams if the owner or operator of the CCR unit certifies that the waste streams must continue to be managed in that CCR unit due to the absence of alternative capacity both onsite and offsite the facility. For these non-CCR waste streams, capacity means the capacity of impoundments, tanks, and other conveyances to manage daily flows currently handled by the unit. To qualify under this paragraph, the owner or operator of the CCR unit shall document that all of the following conditions have been met for each non-CCR waste stream that will continue to be received by the CCR unit:

- (a) No alternative disposal capacity is available. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under this section;
 - (b) The owner or operator has made, and continues to make, efforts to obtain additional capacity. Qualification under this subsection requires that efforts to obtain additional capacity were made at the earliest date that an owner or operator knew, or had reason to know, that such a unit may become subject to closure under subdivisions a, b, or d of subsection 2. Qualification under this subsection lasts only as long as no alternative capacity is available. Once alternative capacity is identified, the owner or operator shall arrange to use such capacity as soon as feasible;
 - (c) The owner or operator shall remain in compliance with all other requirements of this chapter, including the requirement to conduct any necessary corrective action; and
 - (d) The owner or operator shall prepare an annual progress report documenting the continued lack of alternative capacity and the progress towards the development of alternative capacity for the given waste stream.
 - (2) Once alternative capacity is available for a given waste stream, the CCR unit must cease receiving that waste stream, and in the case that alternate capacity has been found for all waste streams, the facility shall initiate closure of the CCR unit following the time frames in subdivisions e and f of subsection 3.
 - (3) If no alternative capacity is identified within five years after the initial certification, the CCR unit must cease receiving all waste streams and close in accordance with the time frames in subdivisions e and f of subsection 3.
- c. Permanent cessation of a coal-fired boiler by a date certain.
- (1) Notwithstanding the provisions of subdivisions a, b, or d of subsection 2, a CCR unit may continue to receive CCR if the owner or operator certifies that the facility will cease operation of the coal-fired boilers within the time frames specified in paragraphs 2 through 4, but in the interim period, prior to closure of the coal-fired boiler, the facility must continue to use the CCR unit due to the absence of alternative disposal capacity both onsite and offsite of the facility. For wastewaters capacity means the capacity of impoundments, tanks, and other units to manage daily flows currently handled by the unit closing. To qualify under this paragraph, the owner or operator of the CCR unit shall document that all of the following conditions have been met:
 - (a) No alternative disposal capacity is available onsite or offsite. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under this section.
 - (b) The owner or operator shall remain in compliance with all other requirements of this chapter, including the requirement to conduct any necessary corrective action; and
 - (c) The owner or operator shall prepare an annual progress report documenting the continued lack of alternative capacity and the progress towards the closure of the coal-fired boiler.

- (2) For a CCR surface impoundment that is forty acres [16.2 hectares] or smaller, the coal-fired boiler must cease operation and the CCR surface impoundment must have completed closure no later than October 17, 2023.
 - (3) For a CCR surface impoundment that is larger than forty acres [16.2 hectares], the coal-fired boiler must cease operation, and the CCR surface impoundment must complete closure no later than October 17, 2028.
 - (4) For a CCR landfill, the coal-fired boiler must cease operation, and the CCR landfill must complete closure no later than April 19, 2021.
 - d. Required notices and progress reports. An owner or operator of a CCR unit that closes in accordance with subparagraphs a, b, or c must complete the following notices and progress reports and submit them to the department:
 - (1) Within six months of becoming subject to closure pursuant to subdivisions a, b, or d of subsection 2, the owner or operator shall prepare and place in the facility's operating record a notification of intent to comply with the alternative closure requirements of this subsection. The notification must describe why the CCR unit qualifies for the alternative closure provisions, in addition to providing the documentation and certifications required by subdivisions a, b, or c.
 - (2) The owner or operator shall prepare the periodic progress reports in addition to describing any problems encountered and a description of the actions taken to resolve the problems. The annual progress reports must be completed according to the following schedule:
 - (a) The first annual progress report must be prepared no later than thirteen months after completing the notification of intent to comply with the alternative closure requirements.
 - (b) The second annual progress report must be prepared no later than twelve months after completing the first annual progress report. Additional annual progress reports must be prepared within twelve months of completing the previous annual progress report.
 - (c) The owner or operator has completed the progress reports specified in this paragraph when the reports are placed in the facility's operating record.
 - (3) An owner or operator of a CCR unit also shall prepare the notification of intent to close a CCR unit as required by subdivision g of subsection 3.
5. Postclosure care requirements.
 - a. Applicability.
 - (1) Except as provided by paragraph 2, this subsection applies to the owners or operators of CCR landfills, CCR surface impoundments, and all lateral expansions of CCR units that are subject to the closure criteria under subsection 3.
 - (2) An owner or operator of a CCR unit that elects to close a CCR unit by removing CCR as provided by subdivision c of subsection 3 is not subject to the postclosure care criteria under this subsection.
 - b. Postclosure care maintenance requirements. Following closure of the CCR unit, the owner or operator shall conduct postclosure care for the CCR unit, which must consist of at least the following:

- (1) Maintaining the integrity and effectiveness of the final cover system, including making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;
 - (2) If the CCR unit is subject to the design criteria under subsection 1 of section 33.1-20-08-04, maintaining the integrity and effectiveness of the leachate collection and removal system and operating the leachate collection and removal system; and
 - (3) Maintaining the ground water monitoring system and monitoring the ground water in accordance with the requirements of section 33.1-20-08-06.
- c. Postclosure care period.
- (1) Except as provided by paragraphs 2 and 3, the owner or operator of the CCR unit shall conduct postclosure care for thirty years.
 - (2) If at the end of the postclosure care period the owner or operator of the CCR unit is operating under assessment monitoring in accordance with subsection 5 of section 33.1-20-08-06, the owner or operator shall continue to conduct postclosure care until the owner or operator returns to detection monitoring in accordance with subdivision e of subsection 5 of section 33.1-20-08-06 or subparagraph b of paragraph 3 of subdivision g of subsection 5 of section 33.1-20-08-06.
 - (3) The department may establish an alternate postclosure period upon a determination that the alternate period is sufficient to protect human health and the environment.
 - (a) To reduce the postclosure care period, the department must ensure that the postclosure care period is long enough to establish settlement behavior and to detect to wear-in defects in the cover system. At a minimum, the department must consider the type of cover placed on the unit (e.g., geosynthetic clay liner) and the placement of the ground water monitoring wells with respect to the waste management units and the ground water table.
 - (b) A determination that a reduced postclosure care period is warranted does not affect the obligation to comply with subdivision b.
- d. Written postclosure plan.
- (1) Content of the plan. The owner or operator of a CCR unit shall prepare a written postclosure plan that includes:
 - (a) A description of the monitoring and maintenance activities required in subdivision b for the CCR unit, and the frequency at which these activities will be performed;
 - (b) The name, address, telephone number, and email address of the person or office to contact about the facility during the postclosure care period; and
 - (c) A description of the planned uses of the property during the postclosure period. Postclosure use of the property may not disturb the integrity of the final cover, liner, or any other component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in this chapter. Any other disturbance is allowed if the owner or operator of the CCR unit demonstrates that disturbance of the final cover, liner, or other component of the containment system, including any removal of CCR, will not increase the potential threat to human health or the environment. The demonstration must

be certified by a qualified professional engineer, and notification must be provided to the department that the demonstration has been placed in the operating record and on the owner's or operator's publicly accessible internet site.

(2) Deadline to prepare the initial written postclosure plan.

- (a) Existing CCR landfills and existing CCR surface impoundments. The owner or operator of the CCR unit shall include the initial written closure plan consistent with the requirements specified in paragraph 1 with the application for a permit modification that meets the requirements of this chapter within twenty-four months of July 1, 2020, as required by subsection 9 of section 33.1-20-08-02.
- (b) New CCR landfills, new CCR surface impoundments, and any lateral expansion of a CCR unit. The owner or operator shall include an initial written postclosure plan consistent with the requirements specified in paragraph 1 with the application for a new permit or permit modification.
- (c) The owner or operator has completed the written postclosure plan when the plan has been approved by the department and placed in the facility's operating record.

(3) Amendment of a written postclosure plan.

- (a) The owner or operator may amend the initial or any subsequent written postclosure plan developed pursuant to paragraph 1 at any time with approval by the department.
 - (b) The owner or operator shall amend the written closure plan whenever:
 - [1] There is a change in the operation of the CCR unit that would substantially affect the written postclosure plan in effect; or
 - [2] After postclosure activities have commenced, unanticipated events necessitate a revision of the written postclosure plan.
 - (c) The owner or operator shall amend the written postclosure plan at least sixty days prior to a planned change in the operation of the facility or CCR unit, or no later than sixty days after an unanticipated event requires the need to revise an existing written postclosure plan. If a written postclosure plan is revised after postclosure activities have commenced for a CCR unit, the owner or operator shall amend the written postclosure plan no later than thirty days following the triggering event.
- (4) The owner or operator of the CCR unit shall obtain a written certification from a qualified professional engineer that the initial and any amendment of the written postclosure plan meets the requirements of this subsection.
- e. Notification of completion of postclosure care period. No later than sixty days following the completion of the postclosure care period, the owner or operator of the CCR unit shall prepare a notification verifying that postclosure care has been completed. The notification must include the certification by a qualified professional engineer verifying that postclosure care has been completed in accordance with the closure plan specified in subdivision d and the requirements of this subsection. The owner or operator has completed the notification when it has been approved by the department and placed in the facility's operating record.

History: Effective July 1, 2020.

General Authority: NDCC 23.1-08-03

Law Implemented: NDCC 23.1-08-03, 23.1-08-04

33.1-20-08-08. Recordkeeping, notification, and posting of information to the internet.

1. Recordkeeping requirements.

- a. Each owner or operator of a CCR unit subject to the requirements of this chapter shall maintain files of all information required by this section in a written operating record at their facility.
- b. Unless specified otherwise, each file must be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, record, or study.
- c. An owner or operator of more than one CCR unit subject to the provisions of this chapter may comply with the requirements of this section in one recordkeeping system provided the system identifies each file by the name of each CCR unit. The files may be maintained on microfilm, on a computer, on computer disks, on a storage system accessible by a computer, on magnetic tape disks, or on microfiche.
- d. The owner or operator of a CCR unit subject to this chapter shall submit to the department any demonstration or documentation required by this chapter, if requested.
- e. Location standards. The owner or operator of a CCR unit subject to this chapter shall place the demonstrations documenting whether or not the CCR unit is in compliance with the requirements under subsections 1 through 5 of section 33.1- 20-08-03, as they become available, in the facility's operating record.
- f. Design criteria. The owner or operator of a CCR unit subject to this chapter shall place the following information, as it becomes available, in the facility's operating record:
 - (1) The design and construction certifications as required by subdivisions b and c of subsection 1 of section 33.1-20-08-04.
 - (2) The documentation of liner type as required by paragraph 1 of subdivision a of subsection 2 of section 33.1-20-08-04.
 - (3) The design and construction certifications as required by paragraphs 2 and 3 of subdivision b of subsection 2 of section 33.1-20-08-04.
 - (4) Documentation prepared by the owner or operator stating that the permanent identification marker was installed as required by paragraph 1 of subdivision a of subsection 3 of section 33.1-20-08-04.
 - (5) The initial and periodic hazard potential classification assessments as required by paragraph 2 of subdivision a of subsection 3 of section 33.1-20- 08-04.
 - (6) The emergency action plan, and any amendment of the emergency action plan, as required by paragraph 3 of subdivision a of subsection 3 of section 33.1-20- 08-04, except that only the most recent emergency action plan must be maintained in the facility's operating record and publicly accessible CCR website.
 - (7) Documentation prepared by the owner or operator recording the annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR

unit and the local emergency responders as required by item 5 of subparagraph a of paragraph 3 of subdivision a of subsection 3 of section 33.1-20-08-04.

- (8) Documentation prepared by the owner or operator recording all activations of the emergency action plan as required by subparagraph e of paragraph 3 of subdivision a of subsection 3 of section 33.1-20-08-04.
 - (9) The history of construction, including design and construction plans, and any revisions of it, as required by subdivision c of subsection 3 of section 33.1-20-08-04, except that these files must be maintained until the CCR unit completes closure of the unit in accordance with subsection 3 of section 33.1-20-08-07.
 - (10) The initial and periodic structural stability assessments as required by subdivision d of subsection 3 of section 33.1-20-08-04.
 - (11) Documentation detailing the corrective measures taken to remedy the deficiency or release as required by paragraph 2 of subdivision d of subsection 3 of section 33.1-20-08-04.
 - (12) The initial and periodic safety factor assessments as required by paragraph 2 of subdivision e of subsection 3 of section 33.1-20-08-04.
- g. Operating criteria. The owner or operator of a CCR unit subject to this chapter must place the following information, as it becomes available, in the facility's operating record:
- (1) The CCR fugitive dust control plan, and any subsequent amendment of the plan, required by subdivision b of subsection 1 of section 33.1-20-08-05, except that only the most recent control plan must be maintained in the facility's operating record and publicly accessible CCR website.
 - (2) The annual CCR fugitive dust control report required by subdivision c of subsection 1 of section 33.1-20-08-05.
 - (3) The initial and periodic run-on and run-off control system plans as required by subdivision c of subsection 2 of section 33.1-20-08-05.
 - (4) The initial and periodic inflow design flood control system plan as required by subdivision c of subsection 3 of section 33.1-20-08-05.
 - (5) Documentation recording the results of each impoundment inspection and instrumentation monitoring by a qualified person as required by subdivision a of subsection 4 of section 33.1-20-08-05.
 - (6) The periodic impoundment inspection report as required by paragraph 2 of subdivision b of subsection 4 of section 33.1-20-08-05.
 - (7) Documentation detailing the corrective measures taken to remedy the deficiency or release as required by paragraph 5 of subdivision b of subsection 4 of section 33.1-20-08-05 and by paragraph 5 of subdivision b of subsection 5 of section 33.1-20-08-05.
 - (8) Documentation recording the results of the weekly landfill inspection by a qualified person as required by subdivision a of subsection 5 of section 33.1-20-08-05.
 - (9) The periodic landfill inspection report as required by paragraph 2 of subdivision b of subsection 5 of section 33.1-20-08-05.

- h. Ground water monitoring and corrective action. The owner or operator of a CCR unit subject to this chapter shall place the following information, as it becomes available, in the facility's operating record:
- (1) The annual ground water monitoring and corrective action report as required by subdivision e of subsection 1 of section 33.1-20-08-06.
 - (2) Documentation of the design, installation, development, and decommissioning of any monitoring wells; piezometers; and other measurement, sampling, and analytical devices as required by paragraph 1 of subdivision e of subsection 2 of section 33.1-20-08-06.
 - (3) The ground water monitoring system certification as required by subdivision f of subsection 2 of section 33.1-20-08-06.
 - (4) The selection of a statistical method certification as required by paragraph 6 subdivision f of subsection 3 of section 33.1-20-08-06.
 - (5) Within thirty days of establishing an assessment monitoring program, the notification as required by paragraph 3 subdivision e of subsection 4 of section 33.1-20-08-06.
 - (6) The results of appendices I and II to this chapter constituent concentrations as required by paragraph 1 subdivision d of subsection 5 of section 33.1-20-08-06.
 - (7) Within thirty days of returning to a detection monitoring program, the notification as required by subdivision e of subsection 5 of section 33.1-20-08-06.
 - (8) Within thirty days of detecting one or more constituents in appendix II to this chapter at statistically significant levels above the ground water protection standard, the notifications as required by subdivision g of subsection 5 of section 33.1-20-08-06.
 - (9) Within thirty days of initiating the assessment of corrective measures requirements, the notification as required by paragraph 5 subdivision g of subsection 5 of section 33.1-20-08-06.
 - (10) The completed assessment of corrective measures as required by subdivision d of subsection 6 of section 33.1-20-08-06.
 - (11) Documentation prepared by the owner or operator recording the public meeting for the corrective measures assessment as required by subdivision e of subsection 6 of section 33.1-20-08-06.
 - (12) The semiannual report describing the progress in selecting and designing the remedy and the selection of remedy report as required by subdivision a of subsection 7 of section 33.1-20-08-06, except that the selection of remedy report must be maintained until the remedy has been completed.
 - (13) Within thirty days of completing the remedy, the notification as required by subdivision e of subsection 8 of section 33.1-20-08-06.
 - (14) The demonstration, including long-term performance data, supporting the suspension of ground water monitoring requirements as required by subdivision f of subsection 1 of section 33.1-20-08-06.
 - (15) The notification of discovery of a nonground water release as required by paragraph 1 subdivision c of subsection 9 of section 33.1-20-08-06.

(16) The report documenting the completion of the corrective action as required by paragraph 2 of subdivision c of subsection 9 of section 33.1-20-08-06.

i. Closure and postclosure care. The owner or operator of a CCR unit subject to this chapter shall place the following information, as it becomes available, in the facility's operating record:

- (1) The notification of intent to initiate closure of the CCR unit as required by paragraph 1 of subdivision b of subsection 1 of section 33.1-20-08-07 and subdivision g of subsection 3 of section 33.1-20-08-07.
- (2) The annual progress reports of closure implementation as required by paragraph 2 of subdivision d of subsection 4 of section 33.1-20-08-07.
- (3) The notification of closure completion as required by subdivision h of subsection 3 of section 33.1-20-08-07.
- (4) The written closure plan, and any amendment of the plan, as required by subdivision b of subsection 3 of section 33.1-20-08-07, except that only the most recent closure plan must be maintained in the facility's operating record and publicly accessible CCR website.
- (5) The written demonstrations, including the certification required by paragraph 3 of subdivision e of subsection 3 of section 33.1-20-08-07, for a time extension for initiating closure as required by subparagraph c of paragraph 3 of subdivision e of subsection 3 of section 33.1-20-08-07.
- (6) The written demonstrations, including the certification required by paragraph 4 of subdivision f of subsection 3 of section 33.1-20-08-07, for a time extension for initiating closure as required by subparagraph d of paragraph 2 of subdivision f of subsection 3 of section 33.1-20-08-07.
- (7) The notification of intent to close a CCR unit as required by subdivision g of subsection 3 of section 33.1-20-08-07.
- (8) The notification of completion of closure of a CCR unit as required by subdivision h of subsection 3 of section 33.1-20-08-07.
- (9) The notification recording a notation on the deed as required by subdivision i of subsection 3 of section 33.1-20-08-07.
- (10) The notification of intent to comply with the alternative closure requirements as required by paragraph 1 of subdivision d of subsection 4 of section 33.1-20-08-07.
- (11) The annual progress reports under the alternative closure requirements as required by paragraph 2 of subdivision d of subsection 4 of section 33.1-20-08-07.
- (12) The written postclosure plan, and any amendment of the plan, as required by subdivision d of subsection 5 of section 33.1-20-08-07, except that only the most recent closure plan must be maintained in the facility's operating record and publicly accessible CCR website.
- (13) The notification of completion of postclosure care period as required by subdivision e of subsection 5 of section 33.1-20-08-07.

- (14) The demonstration, including long-term performance data supporting the reduced postclosure care period as required by paragraph 3 of subdivision c of subsection 5 of section 33.1-20-08-07.
- j. Retrofit criteria. The owner or operator of a CCR unit subject to this chapter shall place the following information, as it becomes available, in the facility's operating record:
- (1) The written retrofit plan, and any amendment of the plan, as required by paragraph 2 of subdivision j of subsection 3 of section 33.1-20-08-07, except that only the most recent retrofit plan must be maintained in the facility's operating record and publicly accessible CCR website.
 - (2) The notification of intent that the retrofit activities will proceed in accordance with the alternative procedures as required by paragraph 1 of subdivision d of subsection 4 of section 33.1-20-08-07.
 - (3) The annual progress reports required under the alternative requirements as required by paragraph 2 of subdivision d subsection 4 of section 33.1-20-08- 07.
 - (4) The written demonstrations, including the certification in paragraph 4 of subdivision f of subsection 3 of section 33.1-20-08-07, for a time extension for completing retrofit activities as required by paragraph 3 of subdivision j of subsection 3 of section 33.1-20-08-07.
 - (5) The notification of intent to initiate retrofit of a CCR unit as required by paragraph 5 of subdivision j of subsection 3 of section 33.1-20-08-07.
 - (6) The notification of completion of retrofit activities as required by paragraph 6 of subdivision j of subsection 3 of section 33.1-20-08-07.
2. Record submission requirements.
- a. The submittals required under subdivision e of this subsection must be sent to the department before the close of business on the day the submittal is required to be completed. For purposes of this section, before the close of business means the submittal must be postmarked or sent by electronic mail. If a deadline falls on a weekend or state holiday, the deadline is automatically extended to the next business day.
 - b. If any CCR unit is located in part within Indian country, notifications of submittals required by this section must be sent to the appropriate tribal authority.
 - c. Submittals may be combined as long as the deadline requirement for each submittal is met. Submittals may be included in a permit application, plan of operation, ground water monitoring plan, corrective action plan, report, or application for modification of any of these documents, as applicable.
 - d. Unless otherwise required in this section, the submittals specified in this section must be sent to the department within thirty days of placing in the facility's operating record. If the department does not approve any of the documents, the owner or operator of the CCR unit shall modify the document and resubmit it to the department for approval. The final approved document must be placed in the facility operating record and on the publicly accessible CCR website within thirty days of approval by the department and the unapproved document must be removed.
 - e. All documents, plans, assessments, demonstrations, certifications, and reports placed in the facility operating record and on the publicly accessible CCR website, as specified in subdivisions e through j of subsection 1, must be submitted to the department, except:

- (1) Documentation of the permanent identification marker specified under paragraph 4 of subdivision f of subsection 1.
 - (2) Documentation of the results of each weekly impoundment inspection by a qualified person as specified under paragraph 5 of subdivision g of subsection 1.
 - (3) Documentation of the results of each weekly landfill inspection by a qualified person as specified under paragraph 8 of subdivision g of subsection 1.
 - (4) Documentation of the design, installation, development, and decommissioning of any monitoring wells; piezometers; and other measurement, sampling, and analytical devices as specified under paragraph 2 of subdivision h of subsection 1.
 - (5) The results of appendices I and II to this chapter constituent concentrations as specified under paragraph 6 of subdivision h of subsection 1.
 - (6) Documentation prepared by the owner or operator recording the public meeting for the corrective measures assessment specified under paragraph 11 of subdivision h of subsection 1.
3. Publicly accessible internet site requirements.
- a. Each owner or operator of a CCR unit subject to the requirements of this chapter shall maintain a publicly accessible internet site (CCR website) containing the information specified in subdivision e. The owner's or operator's website must be titled "CCR Rule Compliance Data and Information".
 - b. An owner or operator of more than one CCR unit subject to the provisions of this chapter may comply with the requirements of this section by using the same Internet site for multiple CCR units provided the CCR website clearly delineates information by the name or identification number of each unit.
 - c. Unless otherwise required in this chapter, the information required to be posted to the CCR website must be made available to the public for as long as it is required to be in the facility operating record.
 - d. Unless otherwise required in this chapter, the information must be posted to the CCR website within thirty days of placing the pertinent information required by subsection 1 in the operating record.
 - e. Each owner or operator shall place on the facility's publicly accessible CCR website all documents, plans, assessments, demonstrations, certifications, and reports placed in the facility operating record and approved by the department as specified in subdivisions e through j of subsection 1, except:
 - (1) Documentation of the permanent identification marker specified under paragraph 4 of subdivision f of subsection 1.
 - (2) Documentation of the results of each weekly impoundment inspection by a qualified person as specified under paragraph 5 of subdivision g of subsection 1.
 - (3) Documentation of the results of each weekly landfill inspection by a qualified person as specified under paragraph 8 of subdivision g of subsection 1.
 - (4) Documentation of the design, installation, development, and decommissioning of any monitoring wells, piezometers and other measurement, sampling, and analytical devices as specified under paragraph 2 of subdivision h of subsection 1.

- (5) The results of appendices I and II to this chapter constituent concentrations as specified under paragraph 6 of subdivision h of subsection 1.
- (6) Documentation prepared by the owner or operator recording the public meeting for the corrective measures assessment specified under paragraph 11 of subdivision h of subsection 1.

History: Effective July 1, 2020.

General Authority: NDCC 23.1-08-03

Law Implemented: NDCC 23.1-08-03, 23.1-08-04

Appendix II to Chapter 33.1-20-08 - Constituents for Assessment Monitoring

Common name ¹
Boron
Calcium
Chloride
Fluoride
pH
Sulfate
Total Dissolved Solids (TDS)

¹Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

Common name ¹
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228 combined

¹Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

CHAPTER 33.1-20-08.1

SURFACE IMPOUNDMENT PROVISIONS

Section

33.1-20-08.1-01 Performance and Design Criteria

33.1-20-08.1-02 Closure and Postclosure Criteria

33.1-20-08.1-01. Performance and design criteria.

In addition to the requirements of section 33.1-20-04.1-09, the owner or operator of a surface impoundment shall comply with the following:

1. Applicability.
 - a. The design, construction, and operating standards of this section are applicable to surface impoundments that store or treat solid waste, sludges containing free liquids, free liquids containing high concentrations of dissolved solids, or liquids derived from processing or handling solid waste.
 - b. The standards of this section are not applicable to the following units:
 - (1) Surface impoundments which treat wastewater, the discharge of which is subject to federal, state, or local water pollution discharge permits;
 - (2) Surface impoundments which handle agricultural waste generated by farming operations;
 - (3) Lime sludge settling basins;
 - (4) Basins used to collect and store storm water runoff;
 - (5) Oil and gas exploration and production waste regulated under North Dakota Century Code section 38-08-04; and
 - (6) CCR surface impoundments subject to chapter 33.1-20-08.
2. The owner or operator must design, construct, and operate each surface impoundment so as to:
 - a. Comply with the surface water and ground water protection standards of chapter 33.1-20-13;
 - b. New units must have a compacted soil liner of a minimum four feet [1.22 meters] of 1×10^{-7} centimeters per second or lesser hydraulic conductivity or any combination of soil liner thickness, underlying soil thickness and hydraulic conductivity, or a flexible membrane liner which would control the migration of waste or waste constituents during the active life of the surface impoundment and, for surface impoundments closed with solid waste in place, during the postclosure period;
 - c. Have dikes designed to maintain their structural integrity under conditions of a leaking liner and capable of withstanding erosion; and
 - d. Have the freeboard equal to or greater than two feet [61.0 centimeters] to avoid overtopping from wave action or precipitation.
3. Monitoring and inspection.

- a. While a surface impoundment is in operation, it must be inspected by the owner or operator monthly and after storms to detect evidence of any of the following:
 - (1) Deterioration, malfunctions, or improper operation of control systems;
 - (2) Sudden drops in the level of the impoundment's contents; and
 - (3) Severe erosion, seepage, or other signs of deterioration in dikes or other containment devices.
 - b. Prior to placing a surface impoundment into operation or prior to renewed operation after six months or more during which the impoundment was not in service, a qualified professional engineer must certify that the impoundment's dike and liner have structural integrity.
4. Emergency repairs and contingency plans.
- a. When a malfunction occurs in the waste containment system which can cause a release to land or water, a surface impoundment must be removed from service and the owner or operator must take the following actions:
 - (1) Immediately shut down the flow of additional waste into the impoundment;
 - (2) Immediately stop the leak and contain the waste which has been released;
 - (3) Take steps to prevent catastrophic failure;
 - (4) If a leak cannot be stopped, empty the impoundment;
 - (5) Clean up all released waste and any contaminated materials; and
 - (6) Notify the department of the problem within twenty-four hours after detecting the problem.
 - b. As part of the contingency plan, the owner or operator must specify a procedure for complying with the requirements of subdivision a of this subsection.
 - c. No surface impoundment that has been removed from service in accordance with the requirements of this section may be restored to service unless the portion of the impoundment which was failing is repaired and the following steps are taken:
 - (1) If the impoundment was removed from service as the result of actual or imminent dike failure, the owner or operator must certify the dike's structural integrity; and
 - (2) If the impoundment was removed from service as the result of a sudden drop in the liquid level, the following actions must be taken:
 - (a) For any existing portion of the impoundment without a liner, a liner must be installed; and
 - (b) For any portion of the impoundment that is lined, the liner must be repaired and the owner or operator must certify that the repaired liner meets the design specification approved in the permit.
 - d. A surface impoundment, that has been removed from service in accordance with the requirements of this subsection and that is not repaired within six months, must be closed in accordance with the provisions of sections 33.1-20-04.1-05 and 33.1-20-04.1-09.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-08.1-02. Closure and postclosure criteria.

In addition to the requirements of section 33.1-20-04.1-09, at closure, the owner or operator shall complete the following:

1. Remove all standing liquids, waste and waste residues, the liners and leak detection system, and any underlying and surrounding contaminated soil. The site must then be reclaimed by regrading the site, replacing all suitable plant growth material, and properly revegetating the site; and
2. If all impoundment materials are not removed as provided in subsection 1, the owner must treat remaining liquids, residues, and soils by removal of liquids, drying, or other means and then close the impoundment and provide postclosure as provided for an industrial waste landfill under section 33.1-20-01.1-02.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-09 LAND TREATMENT PROVISIONS

Section

33.1-20-09-01 Applicability

33.1-20-09-02 Land Treatment Standards

33.1-20-09-01. Applicability.

The standards of this chapter apply to facilities that engage in land treatment of solid waste. These standards do not apply to the following:

1. Facilities utilizing municipal and domestic sludge;
2. Agricultural waste, including animal manure and agricultural residues, resulting from farming operations;
3. Composting grass clippings and leaves; and
4. Inert waste.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-09-02. Land treatment standards.

1. Owners or operators of land treatment facilities shall meet the location standards of section 33.1-20-04.1-01.
2. Owners or operators of land treatment facilities shall meet the minimum standards for performance of chapter 33.1-20-13, the general facility requirements of section 33.1-20-04.1-02, and the general disposal standards of section 33.1-20-04.1-09.
3. Owners or operators of land treatment facilities shall design these facilities to meet the following requirements:
 - a. Provide waste storage facilities, if appropriate, that meet the requirements of this article;
 - b. Collect and treat all runoff from a twenty-five-year, twenty-four-hour storm, and divert all run-on for the maximum flow of a twenty-five-year, twenty-four-hour storm around the active area;
 - c. Avoid standing water on the active area;
 - d. Avoid slopes and other features that will lead to soil and waste erosion, unless contour plowing or other measures are taken to avoid erosion; and
 - e. Control access to the site by fencing or other means.
4. Owners and operators of land treatment facilities shall maintain and operate these facilities in compliance with these following requirements:
 - a. Land treatment of garbage or regulated infectious waste is prohibited;
 - b. Analyze solid waste according to departmentally approved methods;
 - c. Avoid applying waste at rates greater than ten times agronomic rates using the proposed cover crop, or depths greater than would allow for tilling the soil by tracked vehicles;

- d. Provide tilling of soils during the growing season and after each application of waste to maintain aerobic soil conditions;
 - e. Amend the soil and soil nutrients as necessary to promote efficient biological breakdown of waste materials;
 - f. Avoid applying waste to any active area having standing water; and
 - g. Avoid food chain crops during the active life of the facility and after closure until demonstrated to be safe. Specific approval in writing from the department is required for any land treatment disposal facility that is used to raise food crops after closure.
5. All owners or operators of land treatment facilities shall close these facilities in accordance with section 33.1-20-04.1-05.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-10 LARGE VOLUME INDUSTRIAL WASTE AND MUNICIPAL SOLID WASTE ASH LANDFILLS

Section

- 33.1-20-10-01 Applicability
- 33.1-20-10-02 Municipal Solid Waste Ash Treatment
- 33.1-20-10-03 Waste Disposal
- 33.1-20-10-04 Landfill Cover and Closure
- 33.1-20-10-05 Facility Inspector

33.1-20-10-01. Applicability.

The requirements of this chapter apply to the treatment and disposal of solid wastes which meet the criteria of subsections 1 and 3 of section 33.1-20-01.1-11.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-10-02. Municipal solid waste ash treatment.

The owner or operator must propose treatment of municipal solid waste incinerator ash for department approval.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-10-03. Waste disposal.

In addition to the requirements of section 33.1-20-01.1-08 and chapter 33.1-20-04.1, the owner or operator of a landfill shall comply with the performance and design criteria as follows:

1. Any new or lateral expansion of a landfill must be designed with a hydraulic barrier and leachate management system.
 - a. Synthetic liners, leachate detection systems, and leachate removal systems must be compatible with solid waste disposed and the waste's leachate.
 - b. Leachate removal and management systems must be capable of collecting and removing leachate and contaminated surface water.
 - c. Synthetic liners and leachate removal systems must withstand all physical and chemical stresses during the operating period and through the postclosure period.
 - d. The synthetic liners and leachate removal systems must have a collection efficiency of ninety-seven percent or better of precipitation falling on the fill area before closure and must be capable of removing leachate to limit the hydraulic head above the upper liner, exclusive of collection sumps, to twelve inches [30.5 centimeters] or less within thirty-six hours of a precipitation event.
 - e. A composite liner is required which includes at a minimum from bottom to top:
 - (1) At least three feet [91.4 centimeters] of recompact clay with a hydraulic conductivity not to exceed 1×10^{-7} centimeters per second;
 - (2) A synthetic flexible membrane liner at least sixty mil thick;

- (3) A secondary drainage layer with a hydraulic conductivity of 1×10^{-3} centimeters per second or greater throughout and with sufficient thickness to provide a transmissivity of 3×10^{-2} centimeters squared per second or greater;
 - (4) A synthetic flexible membrane liner at least eighty mil thick; and
 - (5) A drainage layer with a hydraulic conductivity of 1×10^{-3} centimeters per second or greater and with sufficient thickness to provide a transmissivity of 3×10^{-2} centimeters squared per second or greater.
2. The facility must include a leachate detection and removal system and an onsite leachate management system or offsite leachate management.
 - a. The amount of leachate collected for onsite or offsite management must be measured and recorded.
 - b. The quality of the leachate must be periodically evaluated on a schedule proposed by the facility owner and approved by the department.
 - c. The department may require the construction of onsite surface impoundments to achieve the equivalent or better design standards of onsite landfills, based on site specific factors such as hydrogeological characteristics, anticipated leachate quality, anticipated static head or expected duration of use.
 - d. The department may require an owner or operator to control wildlife access to onsite surface impoundments based upon leachate quality and site circumstances.
3. Runoff must be contained, collected, and transferred to an onsite surface impoundment, unless another management method is approved by the department.
4. Solid waste disposal in landfills must be limited to those wastes identified in the permit application, waste acceptance plan, or permit. Regulated infectious waste, used oil as a free liquid which can be recovered or recycled, and hazardous waste may not be accepted for disposal at the landfill. TENORM waste may only be accepted under the provisions of chapter 33.1-20-11.
5. All solid wastes deposited at the landfill must be placed, spread, or compacted to minimize or prevent settlement and to promote drainage of surface water. The sequence and direction of below-grade operations must be conducted to prevent surface water from entering the active fill area.
6. On all areas of the landfill where final cover or additional solid waste will not be placed within one month, eight inches [20.3 centimeters] or more of compacted clay-rich soil material, similar material, or a synthetic cover must be placed to prevent ponding of surface water, to minimize infiltration of surface water, and to control windblown dust.
7. The composite liner in combination with the final cover after closure must achieve an efficiency of at least ninety-nine and nine-tenths percent or better for collection or rejection of the precipitation that falls on the landfill.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-03-03, 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, §§ 18, 23

33.1-20-10-04. Landfill cover and closure.

1. The owner or operator must place intermittent cover on all exposed solid waste according to the approved operation plan.
 - a. Unless specified otherwise in the operation plan, the solid waste must not be left uncovered for more than forty-eight hours. Cover must be provided by additional waste or with a suitable material proposed by the landfill owner and approved by the department.
 - b. The cover materials used and cover depth must be sufficient to cover the solid waste completely.
2. The final cover at closure must be eight feet [2.74 meters] or more, and meet the requirement of subsection 7 of section 33.1-20-10-03. In addition, the final cover must include, at a minimum from bottom to top:
 - a. A barrier layer consisting of at least twenty-four inches [61.0 centimeters] of compacted earthen materials with a hydraulic conductivity no greater than 1×10^{-7} centimeters per second;
 - b. A synthetic flexible membrane liner which is at least sixty mil thick;
 - c. A drainage layer consisting of at least six inches [15.2 centimeters] with a transmissivity of 3×10^{-2} centimeters squared per second or greater;
 - d. A layer which is at least thirty-six inches [91.4 centimeters] thick to protect the synthetic liner and barrier layer from freezing, the upper twelve inches [30.5 centimeters] of this layer must be suitable as a plant root zone; and
 - e. A top layer at least six inches [15.2 centimeters] thick consisting of suitable plant growth material.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-10-05. Facility inspector.

The owner or operator shall provide the funds necessary to employ an inspector for conducting onsite inspection services at the facility. The owner or operator shall provide funds by July thirty-first of each year for salary, wages, and operating expenses associated with employing an inspector for the facility.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-01-06, 23.1-08-03; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-11
LANDFILL DISPOSAL OF TECHNOLOGICALLY ENHANCED NATURALLY OCCURRING
RADIOACTIVE MATERIAL WASTE

Section

- 33.1-20-11-01 Radioactive Waste Disposal
- 33.1-20-11-02 Prohibition
- 33.1-20-11-03 Authorization
- 33.1-20-11-04 Monitoring
- 33.1-20-11-05 Reporting
- 33.1-20-11-06 Worker Training and Safety
- 33.1-20-11-07 Record of Notice

33.1-20-11-01. Radioactive waste disposal.

Disposal of radioactive waste subject to regulation under chapter 33.1-10-23, meeting the definition of TENORM, into special waste or industrial waste landfills shall comply with the following requirements and limitations:

1. TENORM waste up to, but not exceeding 50.0 picocuries per gram of radium-226 plus radium-228, may be disposed in a landfill which complies with chapter 33.1-20-07.1 or chapter 33.1-20-10, except that the accumulated amount must not exceed twenty-five thousand tons [22,679.22 metric tons] per year or three thousand tons [2,721.55 metric tons] in any one month unless larger amounts in one month resulting from special cleanup projects are preapproved by the department. Drums or shipping containers of TENORM waste which are not of uniform concentration must not exceed an average concentration of 50.0 picocuries per gram of radium-226 plus radium-228.
2. Equipment contaminated with TENORM which does not exceed a maximum exposure level of one hundred microroentgen per hour, including background radiation, at any accessible location may be disposed in a landfill which complies with chapter 33.1-20-07.1 or chapter 33.1-20-10.
3. TENORM waste must be covered by at least one foot of non-TENORM waste or daily cover material by the end of each operating day. For landfills that operate continuously (twenty-four hours per day), all TENORM waste shall be covered at least once every twenty-four hour period.
4. TENORM waste must be disposed at depth greater than ten feet below the surface of the final landfill cover.
5. For a landfill that is subject to chapter 33.1-20-07.1, if any part of the final cover has slope greater than fifteen percent, then the final cover must have an additional two feet of low permeability soil, for a total minimum cover thickness of five feet.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-03-03, 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, §§ 18, 23

33.1-20-11-02. Prohibition.

Disposal of TENORM waste subject to regulation under article 33.1-10 is prohibited in all municipal solid waste landfills and inert landfills. Disposal of radioactive waste subject to regulation under article 33.1-10, which does not meet the definition of TENORM, or TENORM waste that is greater than 50.0 picocuries per gram of radium-226 plus radium-228 is prohibited in all landfills. If prohibited TENORM waste is delivered to a landfill for disposal, the waste must be rejected. The owner or operator of the

landfill shall note the source, amount, generator, and other identifying information about the rejected waste and shall notify the department within five days of the rejection of such material.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-03-03, 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, §§ 18, 23

33.1-20-11-03. Authorization.

Approval for acceptance of TENORM waste by a landfill not previously authorized to accept such waste in its permit shall follow procedures in section 33.1-20-02.1-07. The facility is also subject to applicable approval and licensure requirements of chapter 33.1-10-23.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-03-03, 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, §§ 18, 23

33.1-20-11-04. Monitoring.

The leachate collection system and ground water monitoring network shall be analyzed for background concentration of radionuclide parameters prior to receipt of any TENORM waste. Leachate shall be analyzed for radionuclides at the same frequency as ground water samples are collected. If radionuclides are detected in the leachate at a concentration greater than the concentrations listed below, then the ground water monitoring network must begin analysis for radionuclide parameters.

Radon: 4,000 picocuries per liter (pCi/L).

Combined radium-226 and radium-228: 5 pCi/L.

Alpha particle activity (including radium-226, excluding radon and uranium): 15 pCi/L.

Uranium: 30 micrograms per liter (ug/L).

History: Effective January 1, 2019.

General Authority: NDCC 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-03-03, 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, §§ 18, 23

33.1-20-11-05. Reporting.

Landfills approved for the disposal of TENORM waste shall file with the department a quarterly summary report stating the date, type, and total quantity by weight in tons, generator, and final disposal facility of each TENORM transferred. Each report shall be filed within thirty days of the end of each quarter. If no transfers of TENORM have been made during the reporting period, the report must so indicate.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-03-03, 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, §§ 18, 23

33.1-20-11-06. Worker training and safety.

Landfills approved for the disposal of TENORM waste shall implement a worker training program and safety program to meet the requirements of section 33.1-10-23-27, so that protection of workers complies with radiation protection standards of chapters 33.1-10-04.2 and 33.1-10-10.1. The training and safety program shall be approved by the department prior to receipt of any TENORM waste.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-03-03, 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, §§ 18, 23

33.1-20-11-07. Record of notice.

The records of notice required by section 33.1-20-02.1-05 shall specify that the landfill is approved to accept TENORM waste. The final record of notice shall indicate the total quantity of TENORM waste disposed in the landfill.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-03-03, 23.1-03-04, 23.1-08-03; S.L. 2017, ch. 199, §§ 18, 23

CHAPTER 33.1-20-12 REGULATED INFECTIOUS WASTE

Section

33.1-20-12-01 Definitions

33.1-20-12-02 Management Standards

33.1-20-12-03 Recordkeeping Requirements

33.1-20-12-01. Definitions.

1. As used in this article, "regulated infectious waste" means an infectious waste which is listed in subdivisions a through g of this subsection. Ash from incineration and residues from disinfection processes are not infectious waste once the incineration or the disinfection has been completed.

- a. Cultures and stocks. Cultures and stocks of infectious agents and associated biologicals, including cultures from medical and pathological laboratories; cultures and stocks of infectious agents from research and industrial laboratories; wastes from the production of biologicals; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, inoculate, and mix cultures.
- b. Pathological waste. Human pathological waste, including tissues, organs, and body parts and body fluids that are removed during surgery or autopsy, or other medical procedures, and specimens of body fluids and their containers.

Human body fluids include: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.

- c. Human blood and blood products. Liquid waste human blood; products of blood; items saturated or dripping with human blood; or items that were saturated or dripping with human blood that are now caked with dried human blood (including serum, plasma, and other blood components, and their containers) and are capable of releasing these materials during handling.
- d. Sharps. Any contaminated object that has been used in animal or human patient care or treatment or in medical, research, or industrial laboratories, that can cut or penetrate the skin. This includes hypodermic needles, syringes (with or without the attached needle), pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, culture dishes (regardless of presence of infectious agents), and exposed ends of dental wires. Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips.
- e. Animal waste. Contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research (including research in veterinary hospitals), production of biological, or testing of pharmaceuticals.
- f. Isolation waste. Biological waste and discarded materials contaminated with blood, excretion, exudates, or secretions from humans who are isolated to protect others from highly communicable diseases, or isolated animals known to be infected with highly communicable diseases.

"Highly communicable diseases" means diseases, such as those caused by organisms classified by the federal centers for disease control and prevention as biosafety level IV organisms, that, in the opinion of the infection control staff, the department, local health

officer, attending physician and surgeon, or attending veterinarian, merit special precautions to protect staff, patients, and other persons from infection. "Highly communicable diseases" does not include diseases such as the common cold, influenza, or other diseases not representing a significant danger to nonimmunocompromised persons.

- g. Unused sharps. This waste includes the following unused, discarded sharps: hypodermic needles, intravenous or other needles, hypodermic or intravenous syringes, suture needles, or scalpel blades.
- 2. As used in this chapter, "disinfection or disinfect" means treatment or processing of infectious waste so that it poses no risk of infection or other health risk to individuals handling or otherwise coming into contact with the waste. The term includes autoclaving, chemical disinfection, radiation and irradiation, and incineration.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-12-02. Management standards.

Every person who collects, stores, transports, treats, or disposes of regulated infectious waste shall comply with these standards of performance.

- 1. At the point of origin, regulated infectious waste must be separated from other wastes and placed in distinctive containers which do not leak and which are impervious, puncture resistant, and tear resistant and which contain obvious markings (for example, red or orange plastic bags or the biohazard label). Bags and containers holding regulated infectious waste must be tied, closed, or sealed securely to prevent leakage. Prior to shipment offsite, all containers must comply with all appropriate federal and state department of transportation packaging and labeling requirements.
- 2. At the point of origin, sharps must be:
 - a. Separated from other regulated infectious waste, disinfected onsite, rendered nonsharp onsite, and then disposed; or
 - b. Placed in containers that are:
 - (1) Closable;
 - (2) Puncture resistant;
 - (3) Leak-proof on sides and bottom; and
 - (4) Labeled or color-coded in accordance with 29 CFR 1910.1030and handled as required by subsection 5.
- 3. The handling and storage of regulated infectious waste, before the treatment of subsection 7, must be conducted in a manner which minimizes exposure to employees of the waste generator, the waste transporter, and the public.
- 4. Areas used for the storage of regulated infectious waste must be enclosed and meet the following requirements:
 - a. Storage rooms, buildings, or areas must be of rodentproof construction which is readily cleanable with proper drainage.

- b. Storage rooms or buildings, if not refrigerated, must be adequately vented and all openings must be screened.
- 5. Containers and enclosed storage areas used for regulated infectious waste must be maintained according to the following requirements:
 - a. All containers and enclosed areas for storage of solid waste must be maintained in good repair and in a manner as necessary to prevent litter, nuisances, odors, insect breeding, and rodents.
 - b. Containers that are broken or otherwise fail to meet requirements of this section must be replaced with complying containers.
- 6. Recycled containers or devices such as carts used for the handling of wastes must be disinfected after each use. The disinfectant must be either an United States environmental protection agency registered disinfectant that is also tuberculocidal, for a contact time as specified by the manufacturer, an unexpired dated stabilized bleach product that is an United States environmental protection agency registered disinfectant that is also tuberculocidal, for a contact time and as specified by the manufacturer or materials necessary to prepare a minimum ten percent sodium hypochlorite solution prepared immediately prior to use with a minimum thirty minutes of contact time with the container.
- 7. All regulated infectious waste must be incinerated or disinfected and sharps that are not incinerated must be rendered nonsharp before disposal. Incineration and disinfection equipment and facilities shall meet the requirements of article 33.1-15 and this article.
- 8. Blood and blood products can be discarded without incineration or disinfection through municipal sewage disposal systems that meet the requirements of article 33.1-16.
- 9. The disposal of nonviable human fetuses shall meet the requirements of section 33.1-03-02-05.
- 10. An infectious waste which is not regulated by this chapter may be disposed at a permitted municipal waste landfill.
- 11. Household waste containing regulated infectious waste in amounts normally found in household waste may be disposed of at a permitted municipal waste landfill.
- 12. Every person who treats or transports regulated infectious waste or operates a regulated infectious waste management unit or facility shall have a valid permit issued by the department.
- 13. Vehicles used for the commercial collection and transportation of regulated infectious waste must be fully leakproof and fully enclosed or covered to prevent scattering of material.
 - a. Regulated infectious waste may not be subject to mechanical stress or compaction during loading, unloading, and transit.
 - b. Regulated infectious waste must not be allowed to become putrescent during transportation.
 - c. Any spilled material must be immediately returned to the transport vehicle or container and, if necessary, the area must be cleaned and decontaminated.
- 14. The owner or operator of a permitted regulated infectious waste treatment facility shall comply with these standards:

- a. Regulated infectious waste must be confined to storage containers and areas specifically designed to store waste. Waste handling and storage systems must provide sufficient excess capacity to prevent nuisances, environmental impacts, or health hazards in the event of mechanical failure or unusual waste flows.
- b. All residues must be controlled and stored in a manner that does not constitute a fire or safety hazard or a sanitary nuisance.
- c. The regulated infectious waste management facility may not cause a violation of the ambient air quality standard or odor rules, article 33.1-15, at the facility boundary.
- d. All incinerators used for regulated infectious waste must be constructed and operated in compliance with article 33.1-15.
- e. The owner or operator shall demonstrate that the treatment unit renders infectious waste noninfectious. The operator shall follow a written operational manual or documented quality assurance procedures for operating the treatment unit. The treatment unit must be tested at a frequency specified by the manufacturer's instructions or after every forty hours of operation to verify disinfection. Acceptable test methods may be physical, chemical, or microbiological in nature, as appropriate for the treatment method.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-12-03. Recordkeeping requirements.

1. Regulated infectious waste generators shall keep records of the amount of regulated infectious waste sent offsite for treatment. Records may consist of any of the following: copies of regulated infectious waste manifests, invoices, records received from the regulated infectious waste treatment facility, logs, or other written documentation of the amount of regulated infectious waste sent offsite for treatment. These records shall be kept for at least three years after they were created.
- 2 Permitted regulated infectious waste treatment facilities receiving regulated infectious waste from others for treatment shall maintain a log indicating the approximate quantities of regulated infectious waste received; the date of receipt; and the name and address of the generator from whom the waste was received, operating parameters, and results of any tests run to verify disinfection. The logs shall be maintained for a period of three years.
3. Permitted regulated infectious waste treatment facilities shall prepare and submit a copy of an annual report to the department by March first of each year. The annual report must cover facility activities during the previous calendar year and must include the following information:
 - a. Name and address of the facility;
 - b. Calendar period covered by the report;
 - c. Annual quantity for each category of solid waste in tons or volume;
 - d. Identification of occurrence and conditions that prevented compliance with the permit and this article; and
 - e. Other items identified in the facility plans and permit.
4. The owner or operator of a regulated infectious waste treatment facility shall prepare and implement a plan of operation approved by the department as part of the permit. The plan

must describe the facility's operation to operating personnel, and the facility must be operated in accordance with the plan. The plan of operation must be available for inspection at the request of the department. Each plan of operation must include, where applicable:

- a. A description of waste acceptance procedures, including categories of solid waste to be accepted and waste rejection;
 - b. A description of waste handling procedures;
 - c. A description of contingency actions for the following:
 - (1) Fire or explosion;
 - (2) Leaks;
 - (3) Other releases (for example, spills); and
 - (4) Any other issues pertinent to the facility.
 - d. Safety procedures; and
 - e. A description of facility inspection activities required by subsection 5 including frequency of inspections.
5. The owner or operator shall inspect the facility to ensure compliance with this article, a permit, and approved plans. The owner or operator shall keep an inspection log including information, such as the date of inspection, the name of the inspector, a notation of observations made, and the date and nature of any repairs or corrective action taken.

History: Effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-13 WATER PROTECTION PROVISIONS

Section

- 33.1-20-13-01 Site Characterization
- 33.1-20-13-02 Ground Water Quality Monitoring
- 33.1-20-13-03 Water Quality Standards
- 33.1-20-13-04 Monitoring Well Construction
- 33.1-20-13-05 Assessment Monitoring, Remedial Measures, and Corrective Action

33.1-20-13-01. Site characterization.

The department shall require adequate site characterization to ensure that the waters of the state are not or will not be adversely impacted by the solid waste management facility. At a minimum, the site characterization must address the following:

1. Location and water quality of lakes, rivers, streams, springs, or wetlands within one mile [1.61 kilometers] of the site boundary based on available data;
2. Domestic and livestock wells within one mile [1.61 kilometers] of the site boundary. Information collected should include the location, water quality, depth to water, well depth, screened intervals, yields, and the aquifers tapped;
3. Site location in relation to the one hundred-year floodplain;
4. Depth to the thicknesses of the uppermost aquifers;
5. Hydrologic properties of the uppermost aquifers beneath the proposed facility, including existing water quality, flow directions, flow rates, porosity, coefficient of storage, hydraulic conductivity, and potentiometric surface or water table; and
6. An evaluation of the potential for impacts to surface and ground water quality from the proposed facility.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-13; S.L. 2017, ch. 199, § 23

33.1-20-13-02. Ground water quality monitoring.

1. An owner or operator of a resource recovery unit, a land treatment unit, a surface impoundment, or a landfill, except an inert waste landfill, must incorporate a ground water monitoring system into the design of the facility. An owner or operator of a CCR unit that is subject to the provisions of chapter 33.1-20-08 is exempt from the requirements of this section. If the owner or operator demonstrates to the department that there is no potential for migration of solid waste constituents to the uppermost aquifer during the life of the solid waste management unit and the postclosure period, the department may suspend this requirement. The demonstration must be based upon factors such as the site characterization, the solid waste characteristics and constituents, the potential capacity of the unit or facility, and the physical, chemical, and biological processes affecting contaminant fate and transport.
2. Ground water monitoring systems must be designed to effectively detect the migration of contamination. At a minimum, a water quality monitoring system shall:
 - a. Include one ground water monitoring well located upgradient of the solid waste management unit, and at least two wells located downgradient of the unit. The monitoring wells should be installed at appropriate locations and depths to yield ground water from

- the uppermost aquifer and all hydraulically connected aquifers below the solid waste management units on the facility;
- b. Represent the elevation of ground water in each well immediately prior to purging so that the owner or operator may determine the rate and direction of ground water flow each time ground water is sampled;
 - c. Represent the quality of ground water that has not been affected by spills or leakage from solid waste management units;
 - d. Represent the quality of ground water to ensure detection of contamination passing the compliance boundary;
 - e. Ground water samples at municipal waste landfills must not be filtered prior to analysis; and
 - f. The frequency and number of samples collected must be consistent with statistical procedures for evaluating ground water data. A minimum of four independent samples from each well must be collected for analysis during the first sampling event for establishing background data at upgradient (subdivision c) and downgradient (subdivision d) wells, unless four or more sampling events occur prior to acceptance of solid waste by the facility. The monitoring frequency must be semiannual during the active life of the facility and during the postclosure period. The department may specify an alternate frequency for sampling based upon such factors as site hydrogeological characteristics, solid waste characteristics, evidence of a spill or leakage, or resource value of the aquifer.
3. Additional wells may be required in complicated hydrogeological settings or to define the extent of contamination detected.
 4. A written ground water monitoring plan must be developed for approval by the department and implemented as part of the permitting process. The plan must include:
 - a. Number and location of wells;
 - b. Procedures for decontamination of drilling and sampling equipment;
 - c. Procedures for sample collection;
 - d. Sample analytical procedures;
 - e. Chain of custody control;
 - f. Parameters for analysis;
 - g. Quality assurance or quality control procedures;
 - h. A monitoring schedule;
 - i. Data statistical methods and analysis procedures; and
 - j. Reporting of a statistically significant increase over a background value or of an exceedance of a maximum concentration limit or a water quality standard.
 5. Ground water monitoring data obtained under this section must be analyzed within a reasonable period of time after completing sampling and laboratory analysis to determine whether or not a statistically significant increase over background values or an exceedance of

a maximum concentration limit or water quality standard has occurred for each parameter required in the monitoring plan or permit. Statistical methods must, as appropriate:

- a. Be appropriate for the distribution of the data and, if inappropriate for a normal theory test, be transformed or a distribution-free theory test must be used.
- b. Control or correct for seasonal and spatial variability in the data.
- c. Account for data below the limit of detection that can be reliably achieved by routine laboratory techniques, using the limit as the lowest concentration level for a chemical parameter which is below detection.
- d. Be protective of human health and environmental resources.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03, 23.1-11-05, 23.1-11-11, 61-28-04, 61-28-05; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-11-05, 23.1-11-06, 23.1-11-08, 23.1-11-11, 61-28-04; S.L. 2017, ch. 199, §§ 23, 26

33.1-20-13-03. Water quality standards.

1. All solid waste management systems, operations, units, and facilities must be designed, constructed, operated, maintained, closed, and maintained after closure so as to be in compliance with North Dakota Century Code chapter 61-28, and water quality standards defined in articles 33.1-16 and 33.1-17. Compliance with these standards is enforceable at the compliance boundary of the facility.
2. Whenever ground water monitoring is required, the department must specify in the facility permit the specific elements of ground water monitoring, including indicator parameters which are constituents in or derived from solid waste, the maximum concentration limits in ground water for each parameter not otherwise defined by subsection 1, and the compliance boundary, considering:
 - a. The physical and chemical characteristics of the waste, including the potential for migration in surface water, in the unsaturated zone beneath the facility, and in ground water;
 - b. The hydrogeological characteristics of the site and the surrounding land;
 - c. The existing quality and quantity of ground water, other possible sources of contamination, and the direction of ground water flow;
 - d. The detectability of the indicator parameters or constituents in surface water or in ground water; or
 - e. The proximity of the facility to surface waters; and
 - f. Appropriate parameters from the list in table 1.
3. The compliance boundary shall be located on land owned by the owner of the facility and no more than five hundred feet [152.4 meters] from a landfill or landfill disposal cell.

TABLE 1 List of Parameters for Assessing Ground Water Quality

a. Parameters measured in the field:

- (1) Appearance (including color, foaming, and odor)
- (2) pH¹
- (3) Specific conductance²
- (4) Temperature
- (5) Water elevation³

b. General geochemical parameters:

- | | |
|----------------------|-----------------------------------|
| (1) Ammonia nitrogen | (11) Chloride |
| (2) Total hardness | (12) Fluoride |
| (3) Iron | (13) Nitrate + Nitrite, as N |
| (4) Calcium | (14) Total phosphorus |
| (5) Magnesium | (15) Sulfate |
| (6) Manganese | (16) Sodium |
| (7) Potassium | (17) Total dissolved solids (TDS) |
| (8) Total alkalinity | (18) Total suspended solids (TSS) |
| (9) Bicarbonate | (19) Cation/anion balance |
| (10) Carbonate | |

c. Heavy metals:

Group A:

- (1) Arsenic
- (2) Barium
- (3) Cadmium
- (4) Chromium
- (5) Lead
- (6) Mercury
- (7) Selenium
- (8) Silver

Group B:

- (9) Antimony
- (10) Beryllium
- (11) Cobalt
- (12) Copper
- (13) Nickel
- (14) Thallium
- (15) Vanadium
- (16) Zinc

d. Total organic carbon (TOC)

e. Chemical oxygen demand (COD)

f. Naturally occurring radionuclides:

- (1) Radon
- (2) Radium
- (3) Uranium

g. Volatile organic compounds, both halogenated and nonhalogenated:

Halogenated:

- | | |
|----------------------|----------------------------|
| Acrylonitrile | 1,1-Dichloroethylene |
| Allyl chloride | 1,2-Dichloropropane |
| Bromochloromethane | cis-1,3-Dichloropropene |
| Bromodichloromethane | cis-1,2-Dichloroethylene |
| Bromoform | trans-1,2-Dichloroethylene |
| Bromomethane | trans-1,3-Dichloropropene |

Carbon disulfide
Carbon tetrachloride
Chlorobenzene
 (monochlorobenzene)
Chlorodibromomethane
Chloroethane
Chloroform
Chloromethane
Dibromomethane
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
Dichloroacetonitrile
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane

trans-1,4-Dichloro-2-butene
Dichlorofluoromethane
Dichloromethane (methylene chloride)
1,3-Dichloropropene
2,3-Dichloro-1-propene
Pentachloroethane
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Trichlorofluoromethane
1,2,3-Trichloropropane
1,1,2-Trichlorotrifluoroethane
Vinyl acetate
Vinyl chloride

Nonhalogenated:

Acetone
Benzene
Cumene
Ethylbenzene
Ethyl ether
Methyl butyl ketone
Methyl ethyl ketone
Methyl iodide

Methyl isobutyl ketone
Pyrene
Styrene
Tetrahydrofuran
Toluene
m-Xylene
o-Xylene
p-Xylene

h. Pesticides:

Aldrin
Chlordane
Chloroform
4,4 DDT
Dibenzofuran
Dieldrin
Dimethoate
Endosulfan

Endrin
Heptachlor
Lindane
Methyl bromide
Methyl methacrylate
Methylene bromide
Naphthalene
Parathion

¹ Two measurements: in field, and immediately upon sample's arrival in laboratory.

² As measured in field.

³ As measured to the nearest 0.01 foot in field before pumping or bailing.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03, 23.1-11-05, 23.1-11-11, 61-28-04, 61-28-05; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-11-05, 23.1-11-06, 23.1-11-08, 23.1-11-11, 61-28-04; S.L. 2017, ch. 199, §§ 23, 26

33.1-20-13-04. Monitoring well construction.

1. All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must allow collection of representative ground water samples.

Wells must be constructed in such a manner as to prevent contamination of the samples, the sampled strata, and between aquifers and water bearing strata.

2. All soil borings or ground water monitoring wells must be completed by a driller licensed in North Dakota and must meet design and construction requirements as stipulated in North Dakota Century Code chapter 43-35 and article 33.1-18.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03, 43-35-19, 43-35-19.1, 43-35-19.2; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 43-35-19, 43-35-19.1, 43-35-19.2; S.L. 2017, ch. 199, §§ 23, 45, 46, 47

33.1-20-13-05. Assessment monitoring, remedial measures, and corrective action.

1. Within ninety days of finding that a parameter has been detected at a statistically significant level exceeding the ground water standards established under sections 33.1-20-13-02 and 33.1-20-13-03, the owner or operator shall initiate an assessment of remedial measures. An owner or operator of a CCR unit that is subject to the provisions of chapter 33.1-20-08 is exempt from the requirements of this section. The assessment must:
 - a. Be completed within a reasonable time period, unless otherwise specified by permit or the department;
 - b. Include an evaluation of the nature and extent of the release of the constituents including pathways to human and environmental receptors;
 - c. For municipal landfills, include ground water sampling and analysis for all parameters listed in appendix 1 of this chapter. The department may delete any of the appendix 1 parameters if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste within the leaking facility;
 - d. Include an analysis of the effectiveness of potential remedial measures in meeting all requirements of subsection 2 and include the following:
 - (1) The performance, reliability, ease of implementation, and potential impacts of each potential remedial measure;
 - (2) The time required to begin and complete each potential remedial measure;
 - (3) The costs of implementation of each potential remedial measure; and
 - (4) The permit requirements or other environmental or public health requirements that may substantially affect implementation of each potential remedial measure; and
 - e. When requested by the department, the owner or operator must discuss results of the assessment of remedial measures, prior to selection of a corrective action remedy, in a public meeting with interested and affected persons.
2. Based on the results of the assessment of remedial measures conducted under subsection 1, the owner or operator must select a corrective action remedy within thirty days which, at minimum, meets the following standards:
 - a. Is protective of human health and environmental resources;
 - b. Attains the ground water protection standards under sections 33.1-20-13-02 and 33.1-20-13-03;

- c. Controls the sources of release so as to reduce or eliminate, to the maximum extent practicable, further releases of constituents that may pose a threat to human health or environmental resources; and
 - d. Complies with this article and other applicable environmental statutes and rules.
- 3. When selecting a corrective action remedy under subsection 2, the owner or operator shall consider these factors:
 - a. The short-term and long-term effectiveness of the potential remedial measure considering:
 - (1) Magnitude of reducing exposure to constituents;
 - (2) Likelihood of further releases;
 - (3) Practical capability of technologies; and
 - (4) Time until the standards are achieved.
 - b. The ease or difficulty of implementing the potential remedial measure considering:
 - (1) Availability of equipment and specialists;
 - (2) Long-term management needs such as monitoring, operation, and maintenance; and
 - (3) Need to coordinate with and obtain necessary approvals or permits from other agencies.
 - c. The need for interim measures to control the sources of the release and to protect human health and environmental resources.
 - d. The schedules for initiating, conducting, and completing the potential remedial measure.
 - e. Practical capability of the owner or operator.
- 4. The owner or operator shall provide the department with a document fully describing the remedial measures assessment under subsection 1 and the selected corrective action remedy under subsections 2 and 3.
- 5. Upon selection of the corrective action remedy under subsection 2 and with the concurrence of the department, the owner or operator shall establish and implement the remedy.
 - a. During implementation, the owner or operator shall monitor the effectiveness of the remedy.
 - b. Implementation shall be considered complete when all actions and standards required to complete the remedy have been satisfied and approved by the department.
 - c. Upon completion of a corrective action remedy, the owner or operator shall place in the operating record a certification that the corrective action remedy has been completed. Within fourteen days of completion of the certification, the owner or operator shall notify the department that the certification has been placed in the operating record.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03, 23.1-11-11, 61-28-04, 61-28-05; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-11-02, 23.1-11-06, 23.1-11-08, 61-28-04; S.L. 2017, ch. 199, §§ 23, 26

Appendix I to Section 33.1-20-13-05 - List of Hazardous Inorganic and Organic Constituents

Acenaphthene	Chrysene
Acenaphtylene	Cobalt
Acetone	Copper
Acetonitrile; Methyl cyanide	m-Cresol; 3-methylphenol
Acetophenone	o-Cresol; 2-Methylphenol
2-Acetylaminofluorene; 2-AAF	p-Cresol; 4-Methylphenol
Acrolein	Cyanide
Acrylonitrile	2,4-D; 2,4-Dichlorophenoxyacetic acid
Aldrin	4,4'-DDD
Allyl chloride	4,4'-DDE
4-Aminobiphenyl	4,4'-DDT
Anthracene	Diallate
Antimony	Dibenz[a,h]anthracene
Arsenic	Dibenzofuran
Barium	Dibromochloromethane; Chlorodibromomethane
Benzene	1,2-Dibromo-3-chloropropane; DBCP
Benzo[a]anthracene; Benzanthracene	1,2-Dibromoethane; Ethylene dibromide; EDB
Benzo[b]fluoranthene	Di-n-butyl phthalate
Benzo[k]fluoranthene	o-Dichlorobenzene; 1,2-Dichlorobenzene
Benzo[ghi]perylene	m-Dichlorobenzene; 1,3-Dichlorobenzene
Benzo[a]pyrene	p-Dichlorobenzene; 1,4-Dichlorobenzene
Benzyl alcohol	3,3'-Dichlorobenzidine
Beryllium	trans-1,4-Dichloro-2-butene
alpha-BHC	Dichlorodifluoromethane; CFC 12
beta-BHC	1,1-Dichloroethane; Ethyldiene chloride
delta-BHC	1,2-Dichloroethane; Ethylene dichloride
gamma-BHC; Lindane	1,1-Dichloroethylene; 1,1-Dichloroethene
Bis(2-chloroethoxy)methane	Vinylidene chloride cis-1,2-Dichloroethylene;
Bis(2-chloroethyl)ether; Dichloroethyl ether	cis-1,2-Dichloroethene
Bis-(2-chloro-1-methylethyl) ether;	trans-1,2-Dichloroethylene;
2,2'-Dichlorodiisopropyl ether; DCIP	trans-1,2-Dichloroethene
Bis-(2-ethylhexyl) phthalate	2,4-Dichlorophenol
Bromochloromethane; Chlorobromomethane	2,6-Dichlorophenol
Bromodichloromethane; Dibromochloromethane	1,2-Dichloropropane; Propylene dichloride
Bromoform; Tribromomethane	1,3-Dichloropropane; Trimethylene dichloride
4-Bromophenyl phenyl ether	2,2-Dichloropropane; Isopropylidene chloride
Butyl benzyl phthalate; Benzyl butyl phthalate	1,1-Dichloropropene
Cadmium	cis-1,3-Dichloropropene
Carbon disulfide	trans-1,3-Dichloropropene
Carbon tetrachloride	Dieldrin
Chlordane	Diethyl phthalate
p-Chloroaniline	O,O-Diethyl O-2-pyrazinyl
Chlorobenzene	phosphorothioate; Thionazin
Chlorobenzilate	Dimethoate
p-Chloro-m-cresol; 4-Chloro-3-methylphenol	p-(Dimethylamino)azobenzene
Chloroethane; Ethyl chloride	7,12-Dimethylbenz[a]anthracene
Chloroform; Trichloromethane	3,3'-Dimethylbenzidine
2-Chloronaphthalene	2,4-Dimethylphenol; m-Xylenol
2-Chlorophenol	Dimethyl phthalate
4-Chlorophenyl phenyl ether	m-Dinitrobenzene
Chloroprene	4,6-Dinitro-o-cresol 4,6-Dinitro-2 methylphenol
Chromium	2,4-Dinitrophenol

2,4-Dinitrotoluene	o-Nitroaniline; 2-Nitroaniline
2,6-Dinitrotoluene	m-Nitroaniline; 3-Nitroaniline
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol	p-nitroaniline; 4-Nitroaniline
Di-n-octyl phthalate	Nitrobenzene
Diphenylamine	o-Nitrophenol; 2-Nitrophenol
Disulfoton	p-Nitrophenol; 4-Nitrophenol
Endosulfan I	N-Nitrosodi-n-butylamine
Endosulfan II	N-Nitrosodiethylamine
Endosulfan sulfate	N-Nitrosodimethylamine
Endrin	N-Nitrosodiphenylamine
Endrin aldehyde	N-Nitrosodipropylamine; N-Nitroso-
Ethylbenzene	N-dipropylamine; Di-n-propylnitrosamine
Ethyl methacrylate	N-Nitrosomethylethylamine
Ethyl methanesulfonate	N-Nitrosopiperidine
Famphur	N-Nitrosopyrrolidine
Fluoranthene	5-Nitro-o-toluidine
Fluorene	Parathion
Heptachlor	Pentachlorobenzene
Heptachlor epoxide	Pentachloronitrobenzene
Hexachlorobenzene	Pentachlorophenol
Hexachlorobutadiene	Phenacetin
Hexachlorocyclopentadiene	Phenanthrene
Hexachloroethane	Phenol
Hexachloropropene	p-Phenylenediamine
2-Hexanone; Methyl butyl ketone	Phorate
Indeno(1,2,3-cd)pyrene	Polychlorinated biphenyls; PCBs; Aroclors
Isobutyl alcohol	Pronamide
Isodrin	Propionitrile; Ethyl cyanide
Isophorone	Pyrene
Isosafrole	Safrole
Kepone	Selenium
Lead	Silver
Mercury	Silvex; 2,4,5-TP
Methacrylonitrile	Styrene
Methapyrilene	Sulfide
Methoxychlor	2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid
Methyl bromide; Bromomethane	1,2,4,5-Tetrachlorobenzene
Methyl chloride; Chloromethane	1,1,1,2-Tetrachloroethane
3-Methylcholanthrene	1,1,2,2-Tetrachloroethane
Methyl ethyl ketone; MEK; 2-Butanone	Tetrachloroethylene; Tetrachloroethene;
Methyl iodide; Iodomethane	Perchloroethylene
Methyl methacrylate	2,3,4,6-Tetrachlorophenol
Methyl methanesulfonate	Thallium
2-Methylnaphthalene	Tin
Methyl parathion; Parathion methyl	Toluene
4-Methyl-2-pentanone; Methyl	o-Toluidine
isobutyl ketone	Toxaphene
Methylene bromide; Dibromomethane	1,2,4-Trichlorobenzene
Methylene chloride; Dichloromethane	1,1,1-Trichloroethane; Methylchloroform
Naphthalene	1,1,2-Trichloroethane
1,4-Naphthoquinone	Trichloroethylene; Trichloroethene
1-Naphthylamine	Trichlorofluoromethane; CFC-11
2-Naphthylamine	2,4,5-Trichlorophenol
Nickel	2,4,6-Trichlorophenol

1,2,3-Trichloropropane
O,O,O-Triethyl phosphorothioate
sym-Trinitrobenzene
Vanadium

Vinyl acetate
Vinyl chloride; Chloroethene
Xylene (total)
Zinc

History: Effective January 1, 2019.

CHAPTER 33.1-20-14

FINANCIAL ASSURANCE REQUIREMENTS

Section

- 33.1-20-14-01 Financial Assurance for Solid Waste Disposal Facilities
- 33.1-20-14-02 Cost Estimates for Closure and Postclosure
- 33.1-20-14-03 Financial Assurance Mechanism for Closure and Postclosure
- 33.1-20-14-04 Implementation of Financial Assurance for Closure and Postclosure
- 33.1-20-14-05 Financial Assurance for Corrective Action
- 33.1-20-14-06 Liability Requirements for Industrial Waste Landfills
- 33.1-20-14-07 Specific Requirements of Mechanisms for Financial Assurance
- 33.1-20-14-08 Release of the Owner or Operator from the Requirements of this Section

33.1-20-14-01. Financial assurance for solid waste disposal facilities.

1. The requirements of this chapter apply to all new and expanded solid waste disposal facilities and to existing solid waste disposal facilities that have not been closed by April 9, 1994. These requirements do not apply to inert waste landfills.
2. New or expanded facilities must demonstrate financial assurance prior to acceptance of solid waste and existing facilities by the date given in subsection 1.
3. Owners of facilities may set up one mechanism or multiple mechanisms to demonstrate financial assurance for both closure and postclosure care of each facility. The amount of funds available through the mechanisms must be no less than the sum of funds that would be available if a single mechanism had been established and maintained for financial assurance of closure and of postclosure care.
4. Mechanisms used to demonstrate financial assurance under this chapter must ensure that the amount of funds assured is adequate to cover the costs of closure and postclosure care and that the funds will be available in a timely fashion whenever needed, until released from the financial assurance requirement by the department.
5. Mechanisms must be legally valid and binding under North Dakota law.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-14-02. Cost estimates for closure and postclosure.

1. Each owner or operator shall prepare separate written closure and postclosure estimates of the costs of hiring a third party to complete identified activities of the facility closure and postclosure plans.
 - a. The initial cost estimates must be in current dollars, and cost estimates must be adjusted annually for inflation.
 - b. The cost estimate for closure must equal the cost of closing the largest area requiring a final cover during the active life of the facility.
 - c. The owner or operator must increase the cost estimates if changes in the closure plan or postclosure plan increase the maximum costs of closure or postclosure care, respectively. The owner or operator may reduce a cost estimate for closure if it exceeds the maximum costs of closure during the remaining life of the facility or a cost estimate for postclosure care if it exceeds the maximum costs of postclosure during the remaining postclosure period.

- d. The cost estimate for postclosure must account for the total costs of postclosure care over the entire postclosure period, including the most expensive costs of postclosure during the postclosure period.
2. Each owner or operator shall prepare a new closure or postclosure cost estimate whenever any of the following occurs:
 - a. Changes in operating plans or facility design affect the closure or postclosure plans;
 - b. There is a change in the expected year of closure; and
 - c. The department directs the owner or operator to revise the closure or postclosure plan.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-14-03. Financial assurance mechanism for closure and postclosure.

1. Each owner or operator of an applicable solid waste disposal facility shall establish one or more financial assurance mechanisms which together total an amount equal to the closure cost estimate or postclosure cost estimate prepared in accordance with section 33.1-20-14-02.
2. An owner or operator may satisfy the requirements for financial assurance for both closure and postclosure care by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a single mechanism had been established and maintained for financial assurance of closure and of postclosure care.
3. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be specified in this section, except that it is the combination of mechanisms, rather than the single mechanism which must provide financial assurance for an amount at least equal to the current closure or postclosure, or both, cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, the owner or operator may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The department may use any or all of the mechanisms to provide for closure or postclosure, or both, care of the facility.
4. Each financial assurance mechanism must be approved by the department. The following financial assurance mechanisms are acceptable, provided respective requirements of section 33.1-20-14-07 are met:
 - a. Trust fund;
 - b. Surety bond;
 - c. Irrevocable letter of credit;
 - d. Financial test;
 - e. Insurance policy; and
 - f. Corporate guarantee.

3. A trust fund, surety bond, letter of credit, corporate guarantee, financial test, or insurance policy may be terminated or canceled only if alternate financial assurance is substituted or if the owner or operator is released from the requirement by the department.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-14-04. Implementation of financial assurance for closure and postclosure.

1. The closure plan and postclosure plan required by this article must specify the financial assurance mechanisms required by this chapter and, if a trust fund, surety bond, or insurance policy, the methods and schedules for funding the mechanisms.
2. During the active life of the facility, the owner or operator shall adjust the closure cost estimate and postclosure cost estimate for inflation and shall submit the following information to the department no later than August thirty-first of each year:
 - a. Updated inflation adjusted closure cost estimate and postclosure cost estimate;
 - b. A summary of financial assurance in place;
 - c. The submittal date of the most recent detailed cost estimates for closure and postclosure;
 - d. The maximum allowed open area and quantities;
 - e. Current estimated open area and quantities; and
 - f. The mechanisms in use.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-14-05. Financial assurance for corrective action.

1. The department may require an owner or operator to undertake remedial measures, including corrective action, under the provisions of subsection 10 of North Dakota Century Code section 23.1-08-03 and chapter 61-28 when a release occurs.
2. An owner or operator required to undertake corrective action must have a detailed estimate, in current dollars, of the cost of hiring a third party to perform the corrective action.
 - a. The cost estimate must account for the total costs of corrective action for the entire corrective action period.
 - b. The owner or operator must annually adjust the cost estimate for inflation until corrective action is completed.
 - c. The owner or operator shall increase the cost estimate if changes in corrective action or conditions increase the total costs. The owner or operator may reduce the cost estimate if the total costs exceed the maximum remaining costs of corrective action.
3. An owner or operator required to undertake corrective action shall establish financial assurance in accordance with section 33.1-20-14-07 no later than one hundred twenty days after the corrective action remedy has been selected. The owner or operator shall provide continuous coverage for corrective action until demonstrating compliance with article 33.1-16.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-14-06. Liability requirements for industrial waste landfills.

An owner or operator of an industrial waste landfill shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility. The owner or operator shall have and maintain liability coverage for sudden accidental occurrences in the amount of at least one million dollars per occurrence with an annual aggregate of at least two million dollars, exclusive of legal defense costs. This liability coverage may be demonstrated with one or more of the mechanisms listed in subsection 2 of section 33.1-20-14-03.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-14-07. Specific requirements of mechanisms for financial assurance.

1. Trust fund. A trust fund must satisfy the requirements of this subsection.

- a. The trustee must be an entity which has authority to act as a trustee in this state and whose trust operations are regulated and examined by a federal or state agency.
- b. Payments into the trust fund must be made annually over the initial permit or over the remaining life of the solid waste management unit or facility, whichever is shorter. This is the pay-in period.
- c. The first payment into the trust fund must equal or exceed the current cost estimate for closure or postclosure, whichever is applicable, divided by the number of years defined in subdivision b. The amount of subsequent payments must be determined by the following formula:

$$\text{Next payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

Where CE is the current cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

- d. The initial payment into the trust fund must be made for new or expanded facilities before the initial receipt of solid waste or for existing facilities before the effective date as provided by subsection 1 of section 33.1-20-14-01.
- e. If an owner or operator establishes a trust fund after having used one or more alternative mechanisms specified in section 33.1-20-14-03, the initial payment into the trust fund must equal or exceed the amount that the fund would contain if the fund were established initially and annual payments made according to subdivision c.
- f. The owner or operator, or other person authorized to conduct closure or postclosure care may request reimbursement from the trustee for these expenses. Requests for reimbursement will be approved by the trustee only if sufficient funds are remaining in the trust fund.

2. **Surety bond.** A surety bond guaranteeing payment or performance must satisfy to the requirements of this subsection.

- a. The penal sum of the bond must be in an amount equal to or greater than the current closure or postclosure cost estimate, whichever is applicable. The surety company issuing the bond, at a minimum, must be among those acceptable sureties on federal bonds in Circular 570 of the United States department of treasury and be authorized to do business within this state.
- b. Under the terms of the bond, the surety must become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.
- c. The owner or operator must establish a standby trust fund that meets the requirement of subsection 1, except for payment provisions in subdivisions b, c, and d.
- d. Payments made under the terms of the bond must be deposited by the surety into the standby trust fund. Payments from the trust fund must be approved by the trustee.
- e. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the department one hundred twenty days or more in advance of the cancellation. If the surety cancels the bond, the owner or operator must obtain alternate financial assurance.

3. **Letter of credit.** A letter of credit must satisfy the requirements of this subsection.

- a. The issuing institution of a letter of credit must have authority to issue letters of credit in this state and its operations must be regulated and examined by a federal or state agency.
- b. A letter from the owner or operator, referring to the letter of credit by number, issuing institution, and date and including the name and address of the solid waste management unit or facility and the amount of funds assured, must be provided with the letter of credit to the department.
- c. The letter of credit must be irrevocable and issued for a period of at least one year in an amount at least equal to the current cost estimate for closure or postclosure care, whichever is applicable. The letter of credit must provide that the expiration date will be automatically extended for a period of one year unless the issuing institution has canceled the letter of credit by sending notice of cancellation to the owner or operator and to the department one hundred twenty days or more in advance of the cancellation. If the letter of credit is canceled by the issuing institution, the owner or operator must obtain alternate financial assurance.
- d. The owner or operator shall establish a standby trust fund that meets the requirement of subsection 1, except for payment provisions in subdivisions b, c, and d.

4. **Insurance.** Insurance must satisfy the requirements of this subsection.

- a. The insurer must be licensed to transact the business of insurance in this state, or eligible to provide insurance as an excess or surplus lines insurer in one or more states.
- b. The insurance policy must guarantee that funds will be available to close the solid waste management unit or facility whenever closure occurs or to provide postclosure care whenever the postclosure period begins, whichever is applicable. The policy must also guarantee that, once closure or postclosure care begins, the insurer will be responsible for paying out funds up to an amount equal to the face amount of the policy upon the direction of the department to such party or parties as the department specifies.

- c. The insurance policy must be issued for a face amount at least equal to the current cost estimate for closure or postclosure care, whichever is applicable. The term face amount means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.
- d. Each insurance policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer.
- e. The insurance policy must provide that the insurer may not cancel, terminate, or fail to renew the policy, except for failure to pay the premium. The automatic renewal of the policy must provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay a premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the owner or operator and to the department one hundred twenty days or more in advance of cancellation. If the insurer cancels the policy, the owner or operator must obtain alternate financial assurance.

Cancellation, termination, or failure to renew may not occur; however, during the one hundred twenty days beginning with the date of receipt of a notice by the department and the owner or operator as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur, and the policy will remain in full force and effect in the event that on or before the date of expiration:

- (1) The department deems the facility abandoned;
 - (2) The permit is terminated or revoked, or a new permit is denied;
 - (3) Closure is ordered by the department or a state court or other court of competent jurisdiction;
 - (4) The owner or operator is named as debtor in a voluntary or involuntary proceeding under United States Code title 11 (bankruptcy); or
 - (5) The premium due is paid.
- f. After beginning partial or final closure or during the postclosure period, or both, an owner or operator or any other person authorized to perform closure or postclosure may request reimbursement for closure or postclosure expenditures by submitting itemized bills to the department. The owner or operator may request reimbursement for partial closure only if the remaining value of the policy is sufficient to cover the maximum cost of closing the facility over its remaining operating life. After receiving bills for closure or postclosure activities, the department shall determine whether the expenditures are in accordance with the partial or final closure or postclosure plan or otherwise justified and if so, the department shall instruct the insurer to make reimbursement in such amounts as the department specifies in writing. If the department has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, the department may withhold reimbursement of such amounts as the department deems prudent until the department determines, in accordance with section 33.1-20-14-08, that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the department does not instruct the insurer to make such reimbursement, the department will provide the owner or operator with a detailed written statement of reasons.

- 5. **Financial test and corporate guarantee.** A financial test or corporate guarantee must satisfy the requirements of this subsection.

- a. For the financial test, the owner or operator must have:
 - (1) A ratio of current assets to current liabilities greater than one and five-tenths, or a current rating for the owner's or operator's most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and
 - (2) Net working capital and tangible net worth each at least four times the sum of the current cost estimates for closure or postclosure, whichever is applicable; and
 - (3) Tangible net worth of at least two million dollars; and
 - (4) Assets located in the United States amounting to at least four times the current cost estimates for closure or postclosure care, whichever is applicable.
- b. To demonstrate the financial test, the owner or operator must submit the following items to the department in a letter which transmits:
 - (1) A copy of an independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest fiscal year; and
 - (2) A report from an independent certified public accountant to the owner or operator stating that:
 - (a) The accountant has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, yearend financial statements for the latest fiscal year; and
 - (b) In connection with that procedure, no matters came to lead the accountant to believe that specified data should be adjusted.
- c. After initial submission of the items in subdivision b, the owner or operator must send updated information to the department no later than August thirty-first of each succeeding fiscal year. This information must consist of all items specified in subdivision b.
- d. If the owner or operator no longer meets the requirements of subdivision a, the owner or operator must send notice by certified mail to the department within ninety days and establish alternate financial assurance within one hundred twenty days.
- e. The department may disallow use of the financial test on the basis of qualification in the opinion expressed by the certified public accountant in the accountant's report on examination of owner's or operator's statements. An adverse opinion or a disclaimer of opinion may be cause for disallowance. The owner or operator shall provide alternate financial assurance within thirty days after notification of the disallowance.
- f. An owner or operator may meet the requirements of this subsection by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a substantial business relationship with the owner or operator. The guarantor must meet the requirements of subdivisions a through e and a certified copy of the guarantee must accompany the items in subdivision b. The terms of the guarantee must provide that:
 - (1) Guarantor will complete closure or postclosure care, whichever is applicable, if the owner or operator fails to do so; and

- (2) The corporate guarantee will remain in effect unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the department; and
- (3) Guarantor will provide alternate financial assurance within ninety days if the corporate guarantee is canceled and if the owner or operator fails to provide approved alternate financial assurance.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

33.1-20-14-08. Release of the owner or operator from the requirements of this chapter.

1. **Release of financial assurance for completion of closure.** After receiving certification from the owner or operator and a qualified professional engineer that final closure has been completed in accordance with the approved closure plan and upon review and approval by the department, the department shall notify the owner or operator, in writing, that the owner or operator is no longer required by this chapter to maintain financial assurance for final closure of the facility. If the department has reason to believe that the final closure has not been in accordance with the approved closure plan, the department shall provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan.
2. **Release of financial assurance for completion of postclosure care.** After receiving certification from the owner or operator and a qualified professional engineer that postclosure care has been completed in accordance with the approved postclosure care plan and upon review and approval by the department, the department shall notify the owner or operator, in writing, that the owner or operator is no longer required by this chapter to maintain financial assurance for postclosure care of the facility. If the department has reason to believe that the postclosure care has not been in accordance with the approved postclosure care plan, the department shall provide the owner or operator a detailed written statement of any such reason to believe that postclosure care has not been in accordance with the approved postclosure care plan.

History: Effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-15 SOLID WASTE MANAGEMENT FEES

Section

33.1-20-15-01 Application Processing Fee

33.1-20-15-02 Annual Permit Fee

33.1-20-15-01. Application processing fee.

1. Applicants for permits for transporting solid waste and for solid waste management units shall pay, at the time the permit application is filed, an application processing fee as follows:
 - a. Two hundred dollars for a solid waste transporter.
 - (1) Solid waste transporter permits are effective for up to five years, expiring on June thirtieth of the fifth year.
 - (2) Each solid waste transport vehicle must display decals issued by the department that show the solid waste transporter permit number and permit expiration date.
 - (3) The application processing fee must include decals for one solid waste transport vehicle.
 - (4) Decals for additional solid waste transport vehicles covered by the permit are available for purchase at the time of application or any later time during the permit period for a fee of twenty-five dollars per vehicle.
 - (5) Additional decals may be purchased only for vehicles directly owned or operated by the permittee. Additional decals may not be purchased for vehicles owned or operated by a subcontractor working for the permittee. A solid waste transportation subcontractor shall apply for and obtain an individual solid waste transporter permit.
 - (6) New vehicle decals are required after a permit expires regardless of when the decal was purchased during the permit period.
 - b. Five thousand dollars for any resource recovery system unit.
 - c. One thousand dollars for any municipal waste landfill unit that receives on average less than twenty tons [18.2 metric tons] per day.
 - d. Three thousand dollars for any municipal waste landfill unit that receives on average from twenty tons [18.2 metric tons] per day to fifty tons [45.4 metric tons] per day.
 - e. Five thousand dollars for any municipal waste landfill unit that receives on average more than fifty tons [45.4 metric tons] per day to five hundred tons [453.5 metric tons] per day.
 - f. Twenty thousand dollars for any municipal waste landfill unit that receives on average more than five hundred tons [453.5 metric tons] per day.
 - g. Three thousand dollars for any surface impoundment unit. A surface impoundment receiving an average of more than ten tons [9.1 metric tons] of waste per day and which will be closed with the waste materials remaining in place shall pay applicable fees for the appropriate size of industrial waste or special waste landfill unit.
 - h. One thousand dollars for any industrial waste or special waste landfill unit that receives on average ten tons [9.1 metric tons] per day or less.

- i. Ten thousand dollars for any industrial waste or special waste unit that receives on average more than ten tons [9.1 metric tons] but less than one hundred tons [90.7 metric tons] per day.
 - j. Twenty thousand dollars for any industrial waste or special waste unit that receives on average one hundred tons [90.7 metric tons] or more per day.
 - k. Two thousand dollars for any inert waste landfill unit that receives on average more than forty tons [18.1 metric tons] per day.
2. Modifications of existing unexpired permits which are initiated by the department may not require an application processing fee. Modifications of existing unexpired permits not initiated by the department that require major review may be required to submit a processing fee with the modification request.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03, 23.1-08-10; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-10; S.L. 2017, ch. 199, § 23

33.1-20-15-02. Annual permit fee.

The owners or operators of an activity or unit required to have a permit under these rules are subject to an annual permit fee for each permit. The fee period must begin each July first and the fee must be paid by July thirty-first. All fees must be made payable to the North Dakota department of environmental quality. The annual permit fee is as follows:

- 1. For a resource recovery system unit five hundred dollars.
- 2. For industrial waste or special waste unit five hundred dollars.
- 3. For a municipal waste landfill unit receiving on average more than twenty tons [18.2 metric tons] per day but less than fifty tons [45.4 metric tons] per day five hundred dollars.
- 4. For a municipal waste landfill unit receiving on average more than fifty tons [45.4 metric tons] per day and less than five hundred tons [453.5 metric tons] per day one thousand dollars.
- 5. For a municipal waste landfill unit receiving on average more than five hundred tons [453.5 metric tons] per day five thousand dollars.
- 6. For a surface impoundment unit five hundred dollars.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03, 23.1-08-10; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-10; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-16 CERTIFICATION OF OPERATORS

Section

- 33.1-20-16-01 Responsibility
- 33.1-20-16-02 Certification and Application
- 33.1-20-16-03 Training Course and Certification Requirements
- 33.1-20-16-04 Certificate Revocation
- 33.1-20-16-05 Term and Renewal of Certificates

33.1-20-16-01. Responsibility.

1. Permittees of all municipal waste landfills, municipal waste incinerators, municipal solid waste ash landfills, and special waste landfills which accept primarily oilfield special waste or TENORM waste in North Dakota are required to have at least one certified operator onsite at all times during operation of the facility.
2. Permittees of all industrial waste landfills and special waste landfills which accept primarily coal combustion residuals in North Dakota are required to have at least one certified operator whose primary work location is at the facility.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-15; S.L. 2017, ch. 199, § 23

33.1-20-16-02. Certification and application.

1. In order to be certified landfill operator, an applicant must take and pass a written examination given by the department or its authorized representative.
2. The department shall charge certification fees of twenty-five dollars for initial certification and fifteen dollars for annual renewal.
3. An individual desiring to attend the training session and take the certification examination shall file and submit the fee and application form at least thirty days before the scheduled training and certification session.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-15; S.L. 2017, ch. 199, § 23

33.1-20-16-03. Training course and certification requirements.

1. To be eligible for certification, a landfill or incinerator operator must have a minimum of one year experience in operating the type of landfill or incinerator that the operator wants to be certified for and attend a training session approved by the department for solid waste facilities.
2. Training sessions will be held at least annually by the department to provide information on landfill and incinerator operation and maintenance.
3. An applicant may submit documentation to demonstrate the equivalency of other training courses and certification successfully completed. The applicant may be eligible for certification without taking the training course or written examination if the department finds that the training and certification are substantially equivalent.
4. Applicants who fail an examination may reapply to the department.

5. Upon passage of the examination with a score of seventy percent or better, the department will issue a certificate to the applicant.
6. The certificates of personnel who terminate their employment at a landfill or incinerator facility will remain valid until expiration.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-15; S.L. 2017, ch. 199, § 23

33.1-20-16-04. Certificate revocation.

The department may suspend or revoke the certificate of an operator if it is found that the operator has practiced fraud or deception in obtaining the certificate or in the performance of operator duties. No certificate may be revoked or suspended except after a hearing conducted in accordance with North Dakota Century Code chapter 28-32. Upon certificate suspension or revocation, a new application for certification may be considered by the department if the conditions upon which the suspension or revocation was based have been corrected and evidence of this fact has been satisfactorily submitted to the department.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-15; S.L. 2017, ch. 199, § 23

33.1-20-16-05. Term and renewal of certificates.

Certificates expire each year on June thirtieth. The holder must reapply for renewal of an expired certificate and pay the renewal fee by July first. To be eligible for renewal, each certified operator must attend at least one departmentally approved training course every three years.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-15; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-17 SOLID WASTE MANAGEMENT PLANNING

Section

33.1-20-17-01 Solid Waste Management Plans

33.1-20-17-01. Solid waste management plans.

The department may require any person or political subdivision within the state to submit for review and approval a solid waste management plan to show that solid wastes will be disposed of in accordance with the provisions of North Dakota Century Code chapter 23.1-08 and this article.

1. The comprehensive solid waste management plan required by North Dakota Century Code chapter 23.1-08 must be developed and implemented for the following purposes:
 - a. Reduce the amount of solid waste generated.
 - b. Reuse materials.
 - c. Composting leaves and grass clippings.
 - d. Recycle everything possible.
 - e. Recover energy from waste.
 - f. Landfill the remaining wastes.
 - g. Coordinate solid waste management among political subdivisions.
2. At a minimum, each solid waste management plan should contain the following plan elements:
 - a. Solid waste management goals and objectives for ten-year plan.
 - b. Solid waste inventory (including special wastes, regulated infectious wastes and tires excluding regulated hazardous wastes), types, and quantities for each community and county; and a district summary.
 - c. Solid waste amounts and types transported to another district or state; and the amounts, types, and sources of waste received from another district or state.
 - d. Descriptions of existing solid waste collectors, service areas, routes, transfer stations, and types of service for all communities and counties served.
 - e. Descriptions of existing resource recovery, waste processing, and disposal methods and facilities, existing waste minimization practices, and local markets for recoverable waste materials; assessments of the capacities of these methods, practices, and markets; and identification of potential and new resource recovery efforts and markets.
 - f. Identification of current solid waste management problems, evaluate solutions, and identify a course of action to solve those problems.
 - g. Methods, procedures, or programs adequate to reduce the volume of solid waste deposited in landfills.
 - h. Future solid waste management issues which may require adjustments to adopted solid waste management plans.
 - i. Implementation plan and schedule and a funding mechanism for the activities and strategies in the plan.

- j. Existing local ordinances and rules and a strategy for the political subdivision's compliance with the plan.
- k. Ensure and document public involvement and acceptance of the plan.
- l. Resolution of adoption of the plan by the political subdivision.
- m. Provision to review, amend, update, and submit solid waste management plans to the department every five years.

History: Effective January 1, 2019; amended effective July 1, 2020.

General Authority: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03; S.L. 2017, ch. 199, § 23

CHAPTER 33.1-20-18
SOLID WASTE MANAGEMENT FUND

Section

33.1-20-18-01 Solid Waste Management Fund

33.1-20-18-01. Solid waste management fund.

1. Any political subdivision may apply for a loan or grant from the solid waste management fund.
2. The loan or grant application must be submitted to the department and include the following:
 - a. The political entity applying for the grant or loan.
 - b. The purpose of the grant or loan application:
 - (1) Market development.
 - (2) Waste reduction.
 - (3) Resource recovery.
 - (4) Recycling.
 - (5) Planning.
 - c. A description of how the proposed project is consistent with the district solid waste management plan.
 - d. A description of the work plan, implementation procedures, and schedule.
 - e. Identification of the amount of grant or loan requested and a cost analysis of the entire project.
 - f. Progress reporting schedule.

History: Effective January 1, 2019.

General Authority: NDCC 23.1-08-03, 23.1-08-12; S.L. 2017, ch. 199, § 1

Law Implemented: NDCC 23.1-08-03, 23.1-08-12; S.L. 2017, ch. 199, § 23

